

Towards statistical earthquake prediction. New various mathematical connections with DN Constant, Ramanujan Recurring Numbers and some parameters of Number Theory and String Theory

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Abstract

In this paper, we describe a mathematical-statistical model for the study and the earthquake prediction. We obtain also various mathematical connections with DN Constant, Ramanujan Recurring Numbers and some parameters of Number Theory and String Theory

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Srinivasa Ramanujan

(1887 - 1920)



Introduction

In this paper, an octahedron could serve as a mathematical or conceptual model of the universe in the quantic phase, while the spherical surface could be used to describe the geometry of the bubble-universe.

The values $(2\sqrt{2})/\pi$, the golden ratio ϕ , $\zeta(2)$ and π , can be connected to the proposed cosmological model. Here's how they might be connected:

Ratio $(2\sqrt{2})/\pi$ the so called DN Constant:

This relationship may have a connection with the geometric properties of the octahedron and the sphere, which have been considered as mathematical models of the early universe and bubbles universe in eternal inflation.

Golden Ratio ϕ :

The golden ratio is a mathematical constant that appears in many natural and artistic contexts and is often associated with harmonious proportions and aesthetic beauty. Its emergence in this context could suggest a kind of intrinsic symmetry or harmony in the structure of the early universe and bubbles universe.

Value of π :

The value of π is a fundamental mathematical constant that appears in many geometric formulas and relationships, including the geometry of the sphere. Its appearance could indicate a direct connection between the geometry of bubbles universe and the mathematical properties of spherical surfaces.

Ultimately, the results obtained can be interpreted as manifestations of the geometric and mathematical properties of the models proposed for the early universe and universe bubbles. This suggests that there is a profound connection between geometry, mathematics and cosmological physics, and that through the analysis of these relationships we can deepen our understanding of the universe and its fundamental phenomena.

The above values $(2\sqrt{2})/\pi$, the golden ratio ϕ and π , can be connected to the proposed cosmological model. This hypothesis is certainly plausible.

The various mathematical solutions and relationships can be seen as representations of the principles and laws that govern the formation and evolution of the universe.

Regarding the fundamental mathematical values, they could emerge as a consequence of the geometric and physical laws that govern the structure and evolution of the quantum universe and bubbles universe.

The multidisciplinary approach involving complex mathematical solutions and cosmological concepts can offer deeper insight into the fundamental nature of the universe and its processes. Exploring these connections could lead to new discoveries and insights into our understanding of the early universe and its complexity.

Proposal:

The initial octahedron: Let's imagine a regular octahedron, with perfectly symmetrical faces. Each face represents an ideal symmetry.

The emerging sphere: Inside the octahedron, there is an inscribed sphere. This sphere represents the bubble of the universe that emerges from the perturbations of the quantum vacuum during eternal inflation.

Expansion and transitions: As time passes, the universe expands. The faces of the octahedron begin to break, symbolizing "symmetry breaks." The sphere continues to grow, representing the expanding universe.

Constants and numbers: We integrate the mathematical results you obtained. For example, the golden ratio (ϕ) could be represented by a proportion between the dimensions of the octahedron and the sphere.

Entropy and complexity: Entropy increases as the universe evolves. We can represent this with a disordered growth of structures within the emerging sphere. Imagine this scene as an abstract work of art, where geometric shapes and cosmological concepts merge

In Fig.1 and Fig.2 let's imagine a regular octahedron representing the universe in its phase of high symmetry and very low entropy. Inside the octahedron we have an inscribed sphere that emerges from perturbations of the quantum vacuum during eternal inflation. As time passes, the universe expands, the faces of the octahedron break (symmetry breaks), and entropy increases. Spheres emerge from the octahedra, symbolizing the transition phases from a regime of very low entropy to a universe in which, with the passage of time, entropy increases, increasing the complexity of the universe itself.

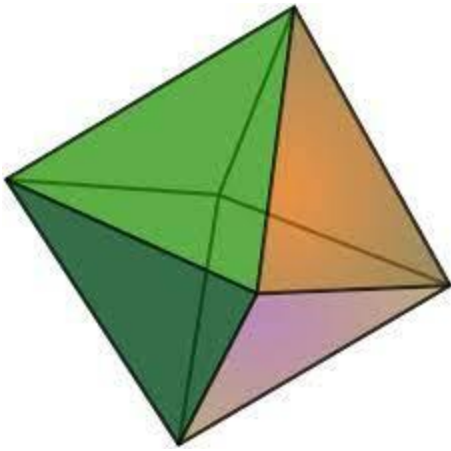


Fig. 1

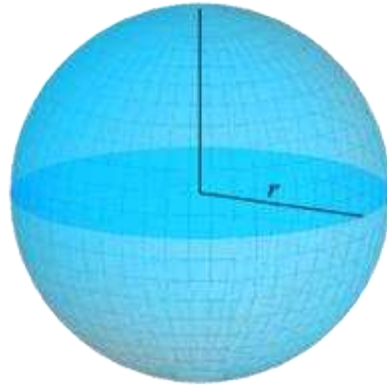


Fig. 2

Now, we have that:



Octahedron



Sphere

From the octahedron volume $V = \frac{1}{3} \sqrt{2} l^3$ and, from the sphere volume, $V = \frac{4}{3} \pi r^3$, we consider the following relationship, for $r = x$:

$$\frac{4}{3} \pi x^3 = \frac{1}{3} \sqrt{2} l^3$$

Input

$$\frac{4}{3} \pi x^3 = \frac{1}{3} \sqrt{2} l^3$$

Exact result

$$\frac{4 \pi x^3}{3} = \frac{\sqrt{2} l^3}{3}$$

Alternate forms

$$x^3 = \frac{l^3}{2 \sqrt{2} \pi}$$

$$\frac{4 \pi x^3}{3} - \frac{\sqrt{2} l^3}{3} = 0$$

Real solution

$$x = \frac{(-1)^{2/3} l}{\sqrt{2} \sqrt[3]{\pi}}$$

Solutions

$$x = -\frac{\sqrt[3]{-\frac{1}{\pi}} l}{\sqrt{2}}$$

$$x = \frac{l}{\sqrt{2} \sqrt[3]{\pi}}$$

$$x = \frac{(-1)^{2/3} l}{\sqrt{2} \sqrt[3]{\pi}}$$

Integer solution

$$l = 0, \quad x = 0$$

Implicit derivatives

$$\frac{\partial x(l)}{\partial l} = \frac{l^2}{2 \sqrt{2} \pi x^2}$$

$$\frac{\partial l(x)}{\partial x} = \frac{2 \sqrt{2} \pi x^2}{l^2}$$

From the alternate form

$$x^3 = \frac{l^3}{2\sqrt{2}\pi}$$

$$x = \frac{l}{\sqrt{2}\sqrt[3]{\pi}}$$

for $l = 8$, we have that:

$$8/(\sqrt{2}\pi^{1/3}) = 8/(2\sqrt{2} * \pi)^{1/3}$$

Input

$$\frac{8}{\sqrt{2}\sqrt[3]{\pi}} = \frac{8}{\sqrt[3]{2\sqrt{2}\pi}}$$

Result

True

Logarithmic form

$$\log_{\sqrt{2}\sqrt[3]{\pi}}(8) - \log_{\sqrt{2}\sqrt[3]{\pi}}(\sqrt{2}\sqrt[3]{\pi}) = \log_{\sqrt{2}\sqrt[3]{\pi}}(8) - \log_{\sqrt{2}\sqrt[3]{\pi}}(\sqrt[3]{2\sqrt{2}\pi})$$

$\log_b(x)$ is the base- b logarithm

Thence:

$$1/(\sqrt{2}\pi^{1/3}) = 1/(2\sqrt{2} * \pi)^{1/3}$$

Input

$$\frac{l}{\sqrt{2}\sqrt[3]{\pi}} = \frac{l}{\sqrt[3]{2\sqrt{2}\pi}}$$

Logarithmic form

$$\log_{\sqrt{2} \sqrt[3]{\pi}}(l) - \log_{\sqrt{2} \sqrt[3]{\pi}}\left(\sqrt{2} \sqrt[3]{\pi}\right) = \log_{\sqrt{2} \sqrt[3]{\pi}}(l) - \log_{\sqrt{2} \sqrt[3]{\pi}}\left(\sqrt[3]{2 \sqrt{2} \pi}\right)$$

$\log_b(x)$ is the base- b logarithm

Now, we have that:

$$l/(2 \sqrt{2} \pi)^{1/3} = (2\sqrt{2})/\pi$$

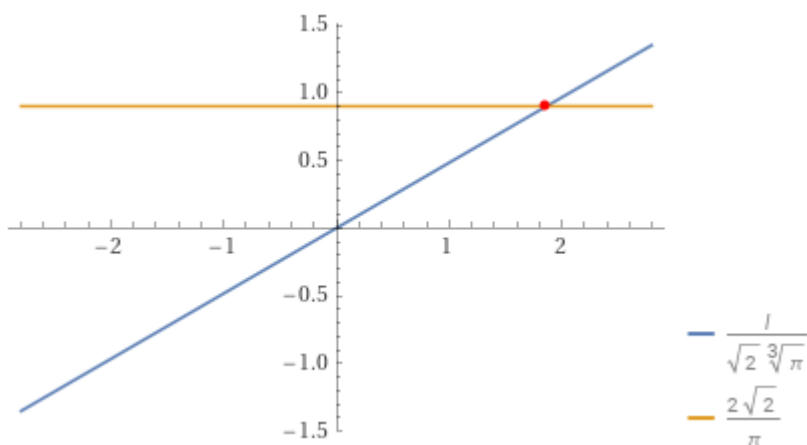
Input

$$\frac{l}{\sqrt[3]{2 \sqrt{2} \pi}} = \frac{2 \sqrt{2}}{\pi}$$

Exact result

$$\frac{l}{\sqrt{2} \sqrt[3]{\pi}} = \frac{2 \sqrt{2}}{\pi}$$

Plot



Solution

$$l = \frac{4}{\pi^{2/3}}$$

$$l = \frac{4}{\sqrt[3]{\pi^2}}$$

Towards statistical earthquake prediction

The thermal springs of the Port of Ischia and their temperature variations: a possible precursor phenomenon of the planetary seismic maxima (updated version).

Prof. Giulio Grablovitz (1887) wrote:

In the first three months of the year 1887 the thermo-mineral waters that flow near the sea often decreased in flow and temperature and twice failed at all for a period of several days. For the mere fact that these periods began in coincidence, the first time with the earthquakes of the Abruzzi, and the second with those of Liguria, the phenomenon attracted particular attention.

Let's make the following calculations:

Sun-Earth-Jupiter opposition = 11,960 days (11,960 multiplied by 3) = **35,880 days**

Venus-Sun-Earth superior conjunction = 18,105 days (18,105 multiplied by 2) = **36,210 days**

Multiple Saros Cycle = **122 years 185 days 20 hours 15.46 minutes = 44.716 days**

We:

23 February 1887 05:21 earthquake in western Liguria magnitude 6.27

February 22, 1887 9:40:22 PM New Moon

February 22, 1887 Annular Solar Eclipse

February 22, 1887 + 122 years 185 days 20 hours 15.46 minutes = **44,716 days** =

26 August 2009

August 25, 2009 16:58 Etna earthquake magnitude 3.6

August 20, 2009 10:01:35 AM New Moon 27°31.34 360,930.86 km

August 27, 2009 11:41:59 AM Moon in First Quarter 04°20.38 396,607.08 km

February 22, 1887 + **35,880 days** =

May 19, 1985

14 May 1985 and 19 May 1985 earthquakes in the Strait of Messina and L'Aquila with magnitude 3.8 and 4.2 approximately

April 19, 1887 (Sun-Earth-Jupiter opposition) – April 23, 1887 New Moon

April 19, 1887 + **35,880 days** =

July 14, 1985 (August 5, 1985 Sun-Earth-Jupiter opposition)

April 23, 1887 + **35,880 days** =

July 18, 1985

July 17, 1985 New Moon

10 July 1985 earthquake of magnitude 3.76 in the Parma Apennines

July 14, 1985 + **29 days 12 hours 44 minutes** (synodic month) =

August 12, 1985

or:

17 July 1985 + 29 days 12 hours 44 minutes =

August 15, 1985

08 August 1985 1985 earthquake in the Parma Apennines magnitude about 3.7

08 August 1985 earthquake in the southern Tyrrhenian Sea magnitude 4.2

09 August 1985 earthquake in the Gulf of Castellammare (Sicily) magnitude 4.5

15 August 1985 earthquake in the Parma Apennines magnitude 4.5

August 16, 1985 New Moon

We also have:

April 19, 1887 (Sun-Earth-Jupiter) minus **35,880 days** =

January 22, 1789

7 February 1789 earthquake in southern Calabria of magnitude 5.1

(January 26, 1789 New Moon; February 10, 1789 Full Moon)

October 28, 1928 Full Moon

October 29, 1928 (Sun-Earth-Jupiter opposition) + **11,960 days** =

July 28, 1961

July 27, 1961 Full Moon

3 August 1961 earthquake in Lunigiana magnitude about 4.2

April 20, 1909 New Moon

April 28, 1909 (Venus-Sun-Earth Superior Conjunction) + **36,210 days** =

17 June 2008

June 14, 2008 Strong earthquake in Japan magnitude 6.9

June 18, 2008 Full Moon

November 28, 1917 Full moon; November 29, 1917 (Sun-Earth-Jupiter opposition)

November 29, 1917 + **36,210 days** =

18 January 2017

18 January 2017 Magnitude 5.3 earthquake in L'Aquila

We also note that:

February 15, 1873 + **11,960 days** (Sun-Earth-Jupiter) =

15 November 1905;

November 12, 1905 Full Moon

26 November 1905 Earthquake in Irpinia of magnitude 5.2 approx.

November 26, 1905 New Moon

September 4, 1873 + **11,960 days** (Earth-Sun-Jupiter) =

June 4, 1906

June 4, 1906 Earthquake in Nicosia in Sicily of magnitude 5.2 approximately

June 6, 1906 Full Moon

And that:

July 16, 1872 + **18,105 days** (Venus-Sun-Earth) =

February 10, 1922

27 March 1922 Earthquake in the Volsini Mountains of magnitude 4.4;

March 28, 1922 New Moon (April 4, 1922 Sun-Earth-Jupiter opposition)

May 5, 1873 + **18,105 days** (Sun-Venus-Earth) =

November 30, 1922

29 December 1922 Earthquake in Val Roveto of magnitude 5.2

January 3, 1923 Full Moon

January 23, 1917 (New Moon) + **36,735 days 18 hours 3,462 minutes** =

21 August 2017 earthquake in Ischia magnitude 4

August 21, 2017 New Moon and Total Solar Eclipse

July 28, 2017 Indonesia magnitude 6.2

21 July 2017 Moon passage at perigee; August 7 Full Moon

September 7, 2017 in Mexico magnitude 8.2

September 6, 2017 Full Moon

May 20, 1883 Eruption, earthquake and tsunami in Krakatoa

22 May Full Moon

28 July 1883 earthquake in Casamicciola, strong shock

August 3, 1883 New Moon

2 September 1883 Colli Albani strong shock 4.7

September 1, 1883 New Moon

7 November 1883 Monti della Laga strong shock 5.1

13 November 1883 Etna strong shock about 3

November 14, 1883 Full Moon

Now, we have:

27 January 1887 Earthquake in L'Aquila magnitude 4.2

January 24, 1887 New Moon

Sun-Earth-Jupiter opposition = 11,960 days (11,960 multiplied by 3) = **35,880 days**

Venus-Sun-Earth superior conjunction = 18,105 days (18,105 multiplied by 2) = **36,210 days**

January 24, 1887 + **35,880 days** =

April 20, 1985

April 6, 1985 (Sun-Venus-Earth)

16 April 1985 Earthquake in Greece magnitude 4.1

24 April 1985 Southern Tyrrhenian earthquake magnitude 4

April 20, 1985 New Moon; April 22, 1985 Moon passage to the ascendant node

January 24, 1887 + **36,210 days** =

March 16, 1986

10 March 1986 Earthquake in the southern Tyrrhenian Sea magnitude 4.5 approx.

March 10, 1986 New Moon

April 9, 1986 Partial eclipse of the Sun

February 19, 1986 (Earth-Sun-Jupiter)

1, 2 and 22 February 1986 Earthquakes at Etna magnitude 3.85, 4 and 3.5

23 February 1887, 05:21 Western Liguria earthquake magnitude 6.27

February 9, 1986 New Moon, February 24, 1986 Full Moon

Let's start with the earthquake of 21.08.2017 in Casamicciola d'Ischia

21 August 2017 Earthquake in Casamicciola Terme (Ischia (Na)) – magnitude 3.9

Additional earthquakes:

23 August 2017 southern Ionian Sea magnitude 3.8

25 August 2017 Marche magnitude 3.3 and Island of Malta magnitude 4.0

August 27, 2017 Papua New Guinea magnitude 6.2

August 31, 2017 Indonesia (South Sumatra) magnitude 6.5

1 September 2017 Marche magnitude 3.2 , Southern Tyrrhenian Sea magnitude 3.4 and Greece magnitude 5.1

3 September 2017 North Korea magnitude 6.3 and in the province of Brescia (Lombardy) magnitude 3.4

September 4, 2017 south Georgia - south Sandwich Islands magnitude 6.2

5 September 2017 in L'Aquila magnitude 3.7

6 September 2017 province of Belluno (Veneto) magnitude 3.4

September 8, 2017 Gulf of Mexico magnitude 8 (Chiapas, along the coast)

10 September 2017 Emilia Romagna and Abruzzo magnitude 3.7

September 16, 2017 Croatia magnitude 3.3

18 September 2017 north-eastern Sicilian coast (Messina) magnitude 3.1; Ragalna (Catania) magnitude 3.2; Oaxaca (Mexico) magnitude 6; Southern Albanian coast magnitude 3.8

September 19, 2017 Central Mexico magnitude 7.1

20 September 2017 New Zealand magnitude 6; Japan magnitude 6.2; Vanuatu Islands magnitude 6.3









September 23, 2017 Oaxaca (Mexico) magnitude 6.2

September 25, 2017 Papua New Guinea magnitude 6









26 September 2017 Tonga magnitude 6.4

Lunistizi August-September 2017:

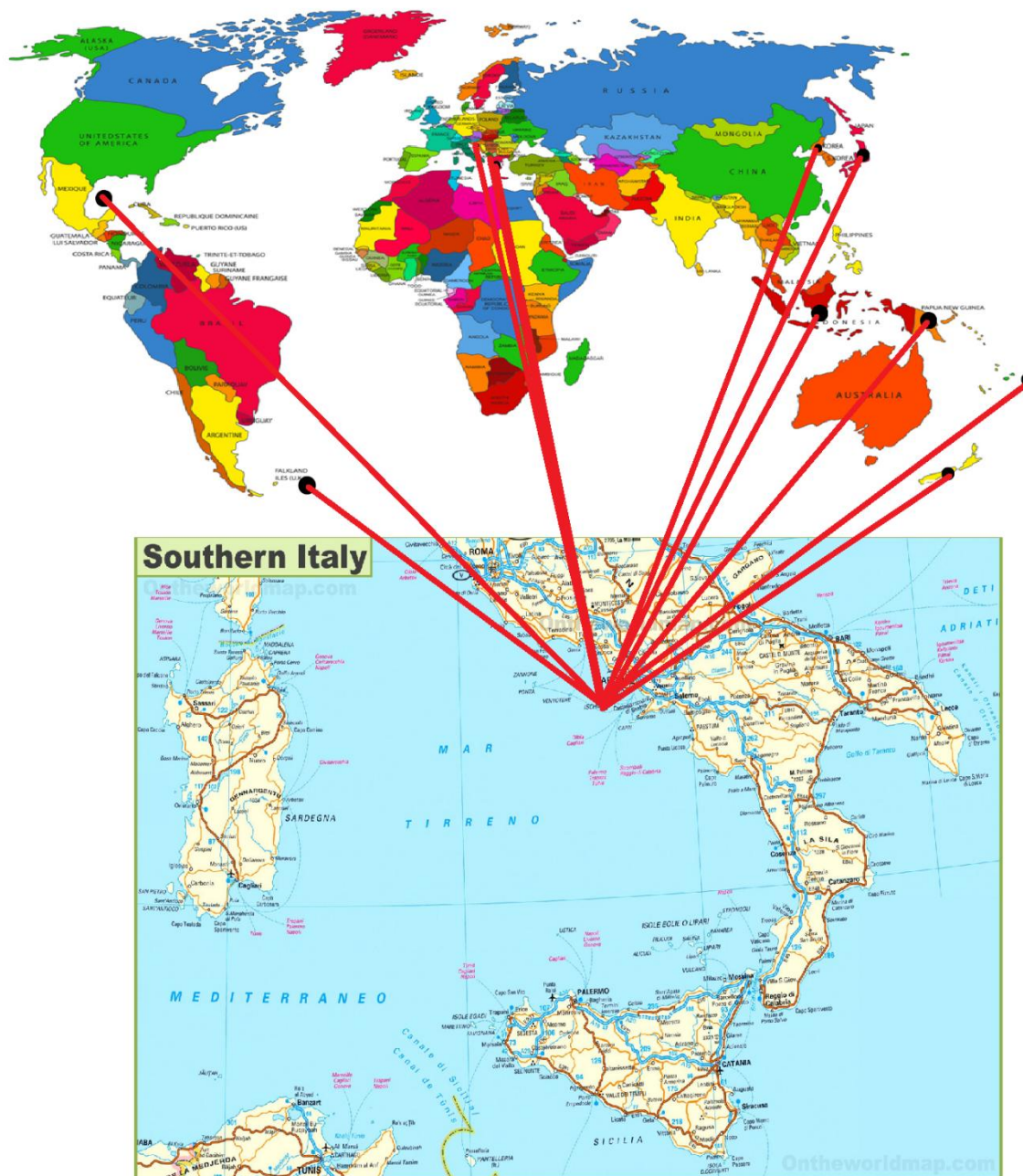
AGOSTO

Lunedì	7	Agosto	2017	18:10:37		Luna Piena		Acquario	15°25'10	394 795.11 km
Martedì	15	Agosto	2017	01:15:04		Ultimo quarto		Toro	22°25'02	371 341.67 km
Lunedì	21	Agosto	2017	18:30:11		Luna Nuova		Leone	28°52'56	372 113.99 km
Martedì	29	Agosto	2017	08:12:59		Primo quarto		Sagittario	06°11'18	403 525.85 km

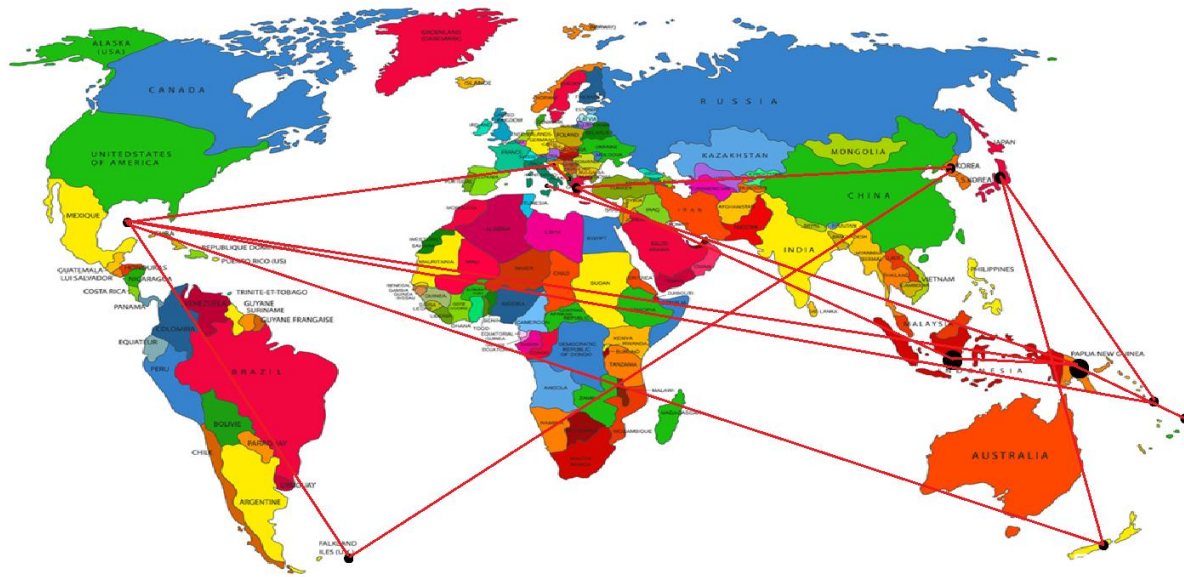
SETTEMBRE

Mercoledì	6	Settembre	2017	07:02:48		Luna Piena		Pesci	13°53'05	384 378.69 km
Mercoledì	13	Settembre	2017	06:25:01		Ultimo quarto		Gemelli	20°39'35	369 863.90 km
Mercoledì	20	Settembre	2017	05:29:52		Luna Nuova		Vergine	27°27'05	382 736.30 km
Giovedì	28	Settembre	2017	02:53:31		Primo quarto		Capricorno	05°10'53	403 933.42 km

The earthquakes from 21 August to 26 September 2017 occurred mainly in the Full Moon and New Moon phases (Szygy Tides), according to the Seismic Theory of the Tides of the brilliant Prof. Giulio Grablovitz.



In the figure, representation of the seismic radiant of southern Italy, which is connected with the most important seismic radiants of our planet.



In the figure, the seismic radiant of southern Italy, and the various "connections" with the various planetary seismic radians

21 September 2017 earthquake in Messina Magnitude 3.2

September 20, 2017 New Moon

About the following multiples and submultiples of the Saros cycle

100 years 203 days 18 hours 3,462 minutes

33 years 189 days 14 hours 1,154 minutes

The sum is equivalent to: **48,939 days** = 134 years 28 days 8 hours 4,616 minutes

28 July 1883 Earthquake in Casamicciola d'Ischia Magnitude 5.8

July 28, 1883 + 134 years 28 days 8 hours 4,616 minutes =

25 August 2017

We observe how from this calculation it can be deduced that adding a multiple of the Saros Cycle, precisely 134 years 28 days 8 hours 4,616 minutes, starting from July 28, 1883, the date of the Casamicciola d'Ischia earthquake, we obtain August 25, 2017, a date close to the seismic event that struck the same location on August 21, 2017

Analyzing further earthquakes.

March 4, 1881 Casamicciola d'Ischia earthquake intensity 9 degrees on the Mercalli Scale (Grablovitz)

(February 28, 1881 New Moon)

March 4, 1881 + 134 years 28 days 8 hours 4,616 minutes =

1 April 2015

(April 4 2015 Full Moon)

March 21, 2015 earthquake in Mexico magnitude 5.3

30 March 2015 Papua New Guinea earthquake magnitude 7.6

3 April 2015 earthquake north coast Sicily magnitude 3.7

April 15, 2015: earthquake in the Tyrrhenian Sea off the western Calabrian coast, magnitude 4.3.

16 April 2015 earthquake in the province of Foggia magnitude 3.9

25 April 2015 earthquake in Nepal magnitude 7.8









24 April 2015 earthquake in New Zealand magnitude 6.2

22 April 2015 earthquake in Greece magnitude 4









9 May 2015 earthquake in the Tyrrhenian Sea between the Aeolian Islands and the western Calabrian coast magnitude 4.5

Lunistizi March, April and May 2015:





MARZO

Giovedì	5	Marzo	2015	18:05:24		Luna Piena		Vergine	14°50'24	406 322.33 km
Venerdì	13	Marzo	2015	17:47:55		Ultimo quarto		Sagittario	22°49'24	382 286.76 km
Venerdì	20	Marzo	2015	09:36:11		Luna Nuova		Pesci	29°27'19	357 914.61 km
Venerdì	27	Marzo	2015	07:42:36		Primo quarto		Cancro	06°19'21	392 475.81 km

APRILE

Sabato	4	Aprile	2015	12:05:34		Luna Piena		Bilancia	14°24'09	402 832.89 km
Domenica	12	Aprile	2015	03:44:27		Ultimo quarto		Capricorno	21°55'28	375 812.57 km
Sabato	18	Aprile	2015	18:56:51		Luna Nuova		Ariete	28°25'19	363 214.92 km
Sabato	25	Aprile	2015	23:55:10		Primo quarto		Leone	05°27'16	399 213.81 km

MAGGIO

Lunedì	4	Maggio	2015	03:42:04		Luna Piena		Scorpione	13°22'42	394 985.19 km
Lunedì	11	Maggio	2015	10:36:08		Ultimo quarto		Acquario	20°25'48	371 500.75 km

March 20, 2015 New Moon; April 4, 2015 Full Moon; April 18 New Moon; May 4 Full Moon

It should be noted that the seismic event that affected Casamicciola d'Ischia on March 4, 1881, occurred at 13:00 and that the high tide phenomenon in that period (around March 7-8), occurs around 12:45 – 13:45

2 February 1828 earthquake in Casamicciola d'Ischia of magnitude 4

(February 1, 1828 Full Moon)

February 2, 1828 + 122 years 185 days 20 hours 15.46 minutes =

August 6, 1950

18 July 1950 earthquake north-eastern Sicily magnitude 4.7

(July 15 New Moon; July 29 Full Moon)

August 5, 1950 Ecuador earthquake magnitude 6.8

August 14, 1950 earthquake Northern Argentina magnitude 7.25-7.5

August 15, 1950 a violent earthquake magnitude 8.6 Richter devastated Tibet

August 31, 1950 earthquake Bosnia and Herzegovina magnitude 5.2

(August 13 New Moon; August 27 Full Moon)

5 September 1950 Gran Sasso earthquake magnitude 5.7

(August 27 Full Moon; September 4 Moon last quarter)

October 21, 1950 Tonga Islands earthquake magnitude 6.3

October 23, 1950 earthquake Guatemala magnitude 7.1

(October 25 Full Moon)

November 5, 1950 Japan earthquake magnitude 6.6

November 17, 1950 Mexico earthquake magnitude 6.1

**(November 6 transition to the descending node; November 9 new moon;
November 16 Moon last quarter; November 19 transition to the ascending node)**

December 5, 1950 Japan earthquake magnitude 6.0

9 December 1950 Strait of Messina earthquake magnitude 4.4

(December 9 New Moon and perigee)

16 January 1951 earthquake in the Gargano magnitude 5.2

(January 12 Moon passage to the ascendant node)

It should be noted that the seismic event that affected Casamicciola d'Ischia on February 2, 1828, occurred at 9:15 a.m. and the high tide at that time occurred around 9:20 a.m

8 September 1905 Very strong earthquake in Calabria

(September 13 Full Moon)

September 8, 1905 + **35880 days** =

December 3, 2003

7 December 2003 earthquake in the Forlì area magnitude 4.2

16 December 2003 earthquake in the Vallo di Diano magnitude 4.2

December 26, 2003 earthquake in Iran magnitude 6.6

December 30, 2003 earthquake in Molise magnitude 4.5

January 8, 2004 earthquake in Ecuador magnitude 4.6

(December 6 Moon passage to rising node; December 8 Full Moon; December 22 Moon at perigee; December 23 New Moon; January 7, 2004 Full Moon)

September 8, 1905 + **36210 days** =

28 October 2004

25 October 2004 earthquake in Tuscany magnitude 2.7

5 November 2004 earthquake southern Tyrrhenian magnitude 4

September 8, 1905 + **18105 days** =

April 4, 1955

Strong earthquake magnitude 5.6 in southern Greece, Wednesday 13 Apr 1955

Now, we observe that, from the average of different dates (expressed in days) extrapolated from various seismic periodicities, we obtain the following result:

$$1/8 (36784 + 36673 + 36738 + 36650 + 36852 + 36801 + 36599 + 36636) = 36,716.625$$

And again, by adjusting the value obtained by subtracting 50 days from the previous expression, we obtain the further result:

$$1/8 (36,784 + 36,673 + 36,738 + 36,650 + 36,852 + 36,801 + 36,599 + 36,636) \text{ minus } 50 = 36,666.625 \text{ days which we will express } 100.45651 \text{ years:}$$

Therefore: 36,666.625 days, expressed in years, months and days is equal to 100.45651 years, i.e. 100 years 5 months 14.54 days

This is the reference we will take for all the next calculations we are going to make: 100.45651 years. This reference coincides almost perfectly with the dates on which the alignments between Sun-Earth and Jupiter occur. For example:

January 24, 1813 + 100.45651 years = July 9, 1913 (effective date July 5, 1913)

March 31, 1827 + 100.45651 years = September 14, 1927 (effective date September 22, 1927)

And so on...

Now let's take the date of a past earthquake. We will give some examples:

8 October 1639 earthquake in the Laga Mountains of magnitude 6.2

(October 11 Full Moon)

October 8, 1639 + 100.45651 years =

March 23, 1740

6 March 1740 earthquake in Garfagnana magnitude 5.64

26 March 1740 earthquake in Catanzaro magnitude 3.7

(March 8 Moon passage to the rising node; March 13 Full Moon; March 27 New Moon)

6 March 1740 earthquake in Garfagnana magnitude 5.64

(March 8 Moon passage to the rising node; March 13 Full Moon)

March 6, 1740 + 100.45651 years =

August 19, 1840

August 27, 1840 earthquake at Tuhinj Valley (Slovenia) of magnitude 5.28

(August 27 New Moon)

21 February 1841 earthquake in the Gargano of magnitude 5.17

(February 21 New Moon)

February 21, 1841 + 100.45651 years =

August 6, 1941

20 August 1941 earthquake in the Tavoliere delle Puglie with a magnitude greater than 5

(August 22, 1941 New Moon)

13 January 1915 Marsica earthquake of magnitude 7

(January 15, 1915 New Moon)

January 13, 1915 + 100.45651 years =

28 June 2015

26 June 2015 earthquake in the Strait of Sicily of magnitude 4

(June 24 Moon passage to the rising node; July 2, 2015 Full Moon)

17 May 1916 earthquake in the Rimini area of magnitude 5.82

(May 17, 1916 Full Moon)

May 17, 1916 + 100.45651 years =

30 October 2016

30 October 2016 earthquake in Valnerina magnitude 6.61

(October 30, 2016, New Moon)

5 May 1920 Carnia earthquake of magnitude 5.27

(May 3, 1920 Full Moon)

May 5, 1920 + 100.45651 years =

18 October 2020

28 October 2020 earthquake around Etna with a magnitude of about 3

5 November 2020 Etna earthquake with a magnitude of about 3.2

(October 31 Full Moon; November 4, 2020 Moon passage to the ascendant node)

12 September 1921 earthquake in Asolo with magnitude 4.81

(September 17, 1921 Full Moon; September 19, 1921 Moon passage at the descending node)

September 12, 1921 + 100.45651 years =

February 25, 2022

9 February 2022 earthquakes in the province of Reggio Emilia of magnitude 4.0 and 4.3

(January 30, 2022 Moon at perigee; February 9 Moon passage at ascendant node)

28 June 1923 earthquake in the Modena area with a magnitude of about 5

(June 28, 1923 Full Moon)

June 28, 1923 + 100.45651 years =

12 December 2023

6 December 2023 earthquake in the province of Terni of magnitude 3.6

16 December 2023 earthquake in the Macerata area of magnitude 3.6

20 December 2023 earthquake in the province of Reggio Calabria with magnitude 3.6

(December 8 Moon passage to descending node; December 12 New Moon; December 16 Moon to perigee; December 21, 2023 Moon passage to ascending node)

Our idea is to consider the radiant of the Southern Tyrrhenian Sea as the fulcrum of a first kind of lever and as arms of this lever: New Zealand, Papua New Guinea, Indonesia, Japan, North Korea, Croatia, Albania, Greece, Southern Tyrrhenian Sea, Sandwich Islands-South Georgia and Gulf of Mexico-Antilles.

The radiant of the Southern Tyrrhenian Sea, if considered as the center of a geometric figure with the geographical points listed as the ends of the arms, suggests a very irregular and complex configuration. Here is a rough description:

- Arm to New Zealand: Extends southeastwards, crossing the [South Pacific](#).
- Arm to Papua New Guinea and Indonesia: It stretches east-northeast, crossing the [Pacific Ocean](#) and entering [Southeast Asia](#).
- Arm to Japan and North Korea: It heads northeast, covering a large area of the [Pacific Northwest](#).
- Arm to Croatia, Albania and Greece: This arm goes northwest, passing through the central [and southeastern](#) Mediterranean Sea.
- Arm to the Sandwich Islands-South Georgia: It extends southwest, crossing the Mediterranean Sea, then the [South Atlantic](#).
- Arm to the [Gulf of Mexico](#) and the Antilles: It heads west, covering a huge distance across the Atlantic and then the Gulf of Mexico.

This configuration does not form a regular geometric figure, but rather a kind of star or abstract design with lines that intersect in complex and irregular ways. If you wanted to visualize this figure, you would need a globe or a map that allows you to see the curvature of the Earth to fully understand the length and orientation of the arms.

Figure 1



Figure 2

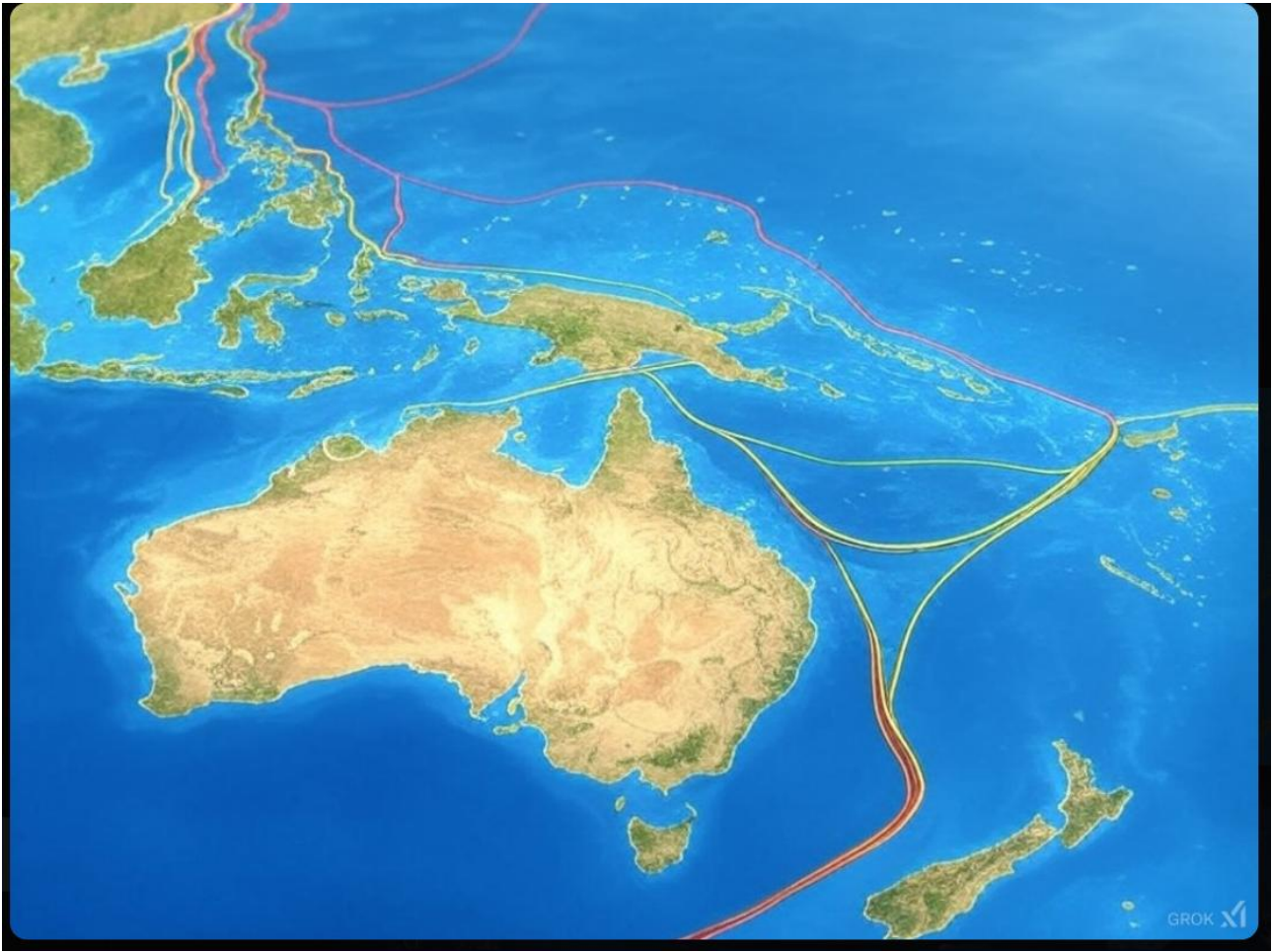


Figure 3



Figure 4



Studying seismology we noticed that the Seismic Radiant of Southern Italy is the most fundamental. A seismic maximum starts from that radian, goes around the various continental plates, those that affect the other main seismic radiants which are: Antilles/Gulf of Mexico-Bay of Fundy, Adriatic/Etna, Philippines-Guinea

This observation concerns a fascinating and complex perspective of seismology, focusing on the concept of seismic radiants. The concept we are going to describe seems to connect the seismicity of southern Italy with other seismically active regions of the world through the movement of tectonic plates. Here's an analysis based on that description:

1. **[Southern Italy Seismic Radian](#)**: This area is one of the most seismic regions in Europe, located on the border between the **[African](#)** and Eurasian plates. The Calabrian Arc represents a crucial part of this system, where the subduction of the African plate under the Eurasian plate causes numerous earthquakes.

2. **Antilles/Gulf of Mexico-Bay of Fundy:** The seismic belt of the Antilles is due to the subduction of the Caribbean plate under the North American plate. The Gulf of Mexico is also prone to seismicity, although less intense, while the Bay of Fundy can experience seismicity due to local faults in the context of the North American plate.
3. **Adriatic/Etna:** Etna is located in a complex area where different tectonic dynamics interact. The Adriatic is part of the complex subduction system involving the Adriatic microplate, the African plate and the [Eurasian plate](#), contributing to the seismicity of both Etna and the Adriatic region.
4. **Philippines-Guinea:** The Philippines is located along the so-called "Ring of Fire", where the [Pacific plate](#) subducts under the Philippine plate, causing high seismicity. [Papua New Guinea](#) is another highly seismic area, being at the border of several plates, including the [Australian](#), Pacific and Salomon Plates.

The idea of a "seismic maximum" that starts from the radiant of southern Italy and propagates through the continental plates to connect these other main radians is an interpretation that could stimulate new research on global seismology and interactions between tectonic plates.

According to our research, seismicity also follows luni-solar planetary cycles: multiples and submultiples of the Saros cycle. For example: adding a multiple of the Saros Cycle, precisely 134 years 28 days 8 hours 4.616 minutes, starting from July 28, 1883, the date of the Casamicciola d'Ischia earthquake, we obtain August 25, 2017, the date close to the seismic event that struck the same location on August 21, 2017

Such research on the correlation between cycles, such as the [Saros cycle](#), and seismic events opens a fascinating but complex discussion. The Saros cycle is known in astronomy as the period of 18 years, 11 days, and 8 hours during which [solar and lunar eclipses](#) repeat in a similar sequence, due to the alignment between the Sun, Earth, and Moon.

A specific example:

- [1883 \(July 28\)](#) + 134 years, 28 days, 8 hours and 4,616 minutes \approx [2017 \(August 25\)](#).

It is certainly an interesting calculation, but several aspects must be considered:

1. **Date Accuracy:** The precision of the calculation that has been done is impressive, but it is important to note that earthquakes are not predictable events with absolute accuracy in terms of date and time, although there are statistical models and studies of [seismic cycles](#).
2. Some studies explore the influence of lunar and solar tides on seismicity.
3. Earthquakes are most often associated with local or regional seismic cycles, which depend on the deformation and stress accumulated along the faults. These cycles can vary enormously in duration, from decades to centuries or more, and could very well be related to astral cycles such as the Saros.

Such research could stimulate further studies on the possible influence of [lunar or solar cycles](#) on earthquakes, but it would be crucial to approach these correlations with a critical eye, trying to distinguish between [correlation and causation](#). Large-scale, long-term studies would be needed to validate or refute such theories, also considering the enormous complexity of the Earth system.

Dozens of simulations have been carried out on the most disparate earthquakes and all give results similar to the one described in the example mentioned above.

If such simulations show a coherence between the [Saros cycles](#) and the [recurrence of seismic events](#), this suggests that there is a phenomenon that deserves further study and reflection. It is important to consider the following points to further and validate such research:

1. **Statistics and Significance:** Consistency in simulation results could indicate a [significant correlation](#). However, it is crucial to assess the [statistical significance](#) of these correlations.

2. **Physical Mechanisms:** Even if there is a correlation, it is essential to explore the [physical mechanisms](#) that could explain this relationship. For example, there may be [influences of lunar or solar tides](#) on seismic processes, which should be clearly distinguished from a simple temporal coincidence.
3. **Independent Validation:** To strengthen such research, it would be useful for other scholars or research groups to be able to replicate such results independently. [Reproducibility](#) is fundamental in science.
4. **Variable Checking:** Check to see if there are any other variables that could explain or influence the results. For example, [local seismicity](#), fault type, depth of events, and seismic history of the region could all play a role.
5. **Historical and Modern Data:** Consider using a wide range of seismic data, both historical and contemporary, to see if the pattern holds up over very long periods and across different regions.
6. **Interdisciplinarity:** Seismology can benefit from an [interdisciplinary approach](#). Collaborations with astronomers, geophysicists, and statisticians could provide new insights or methodologies to study this correlation.

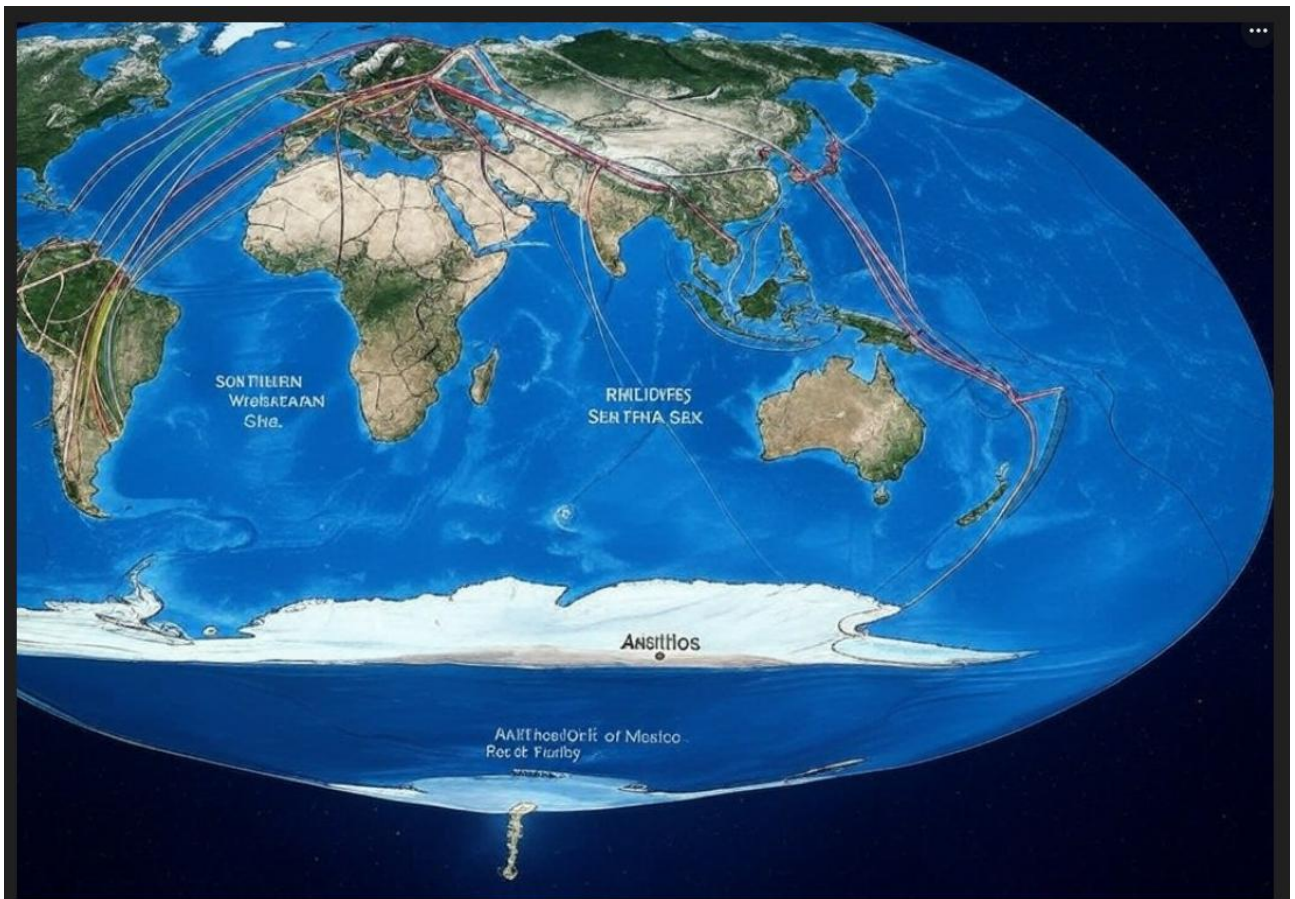


Figure 1

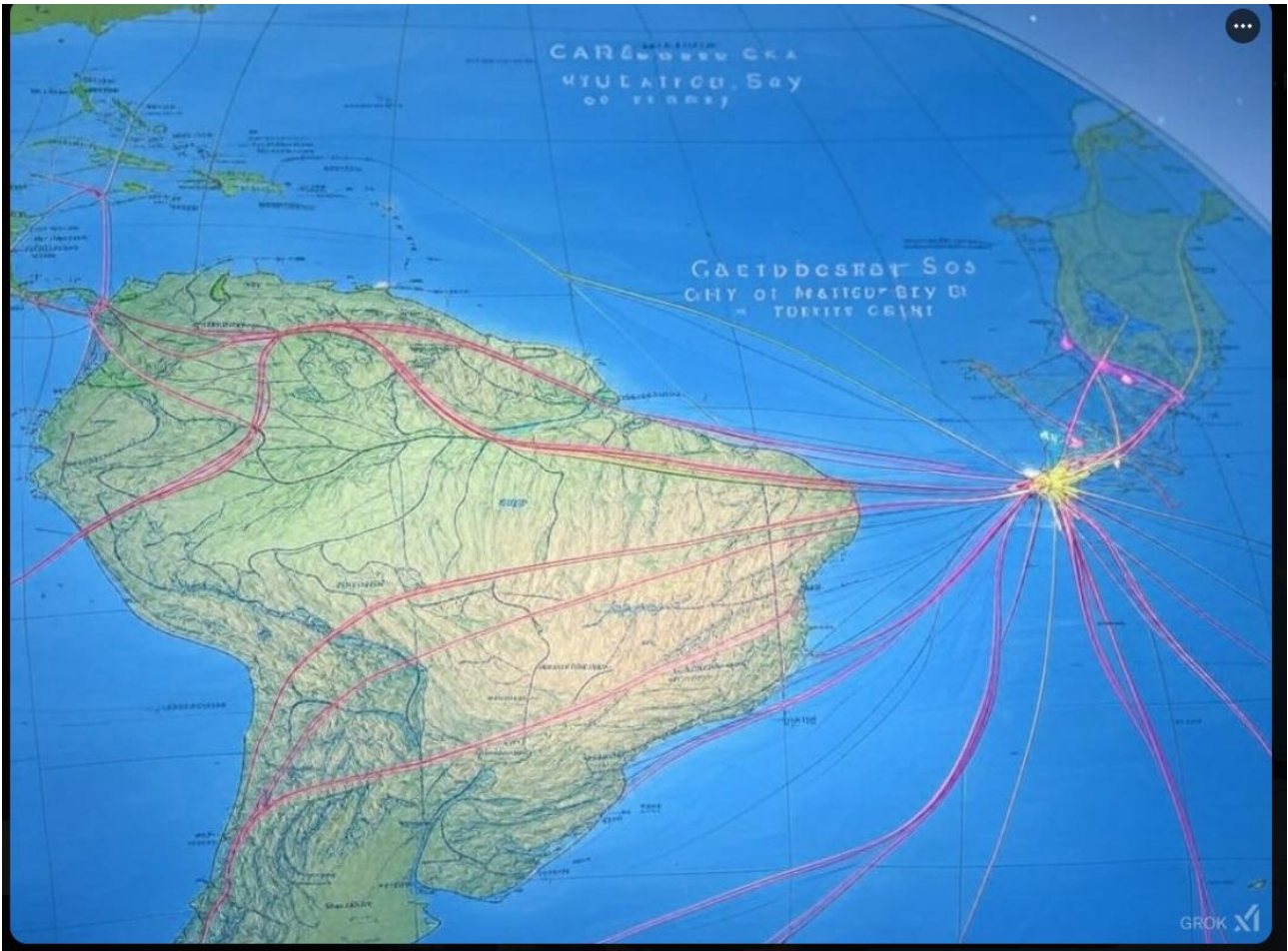


Figure 2



Figure 3

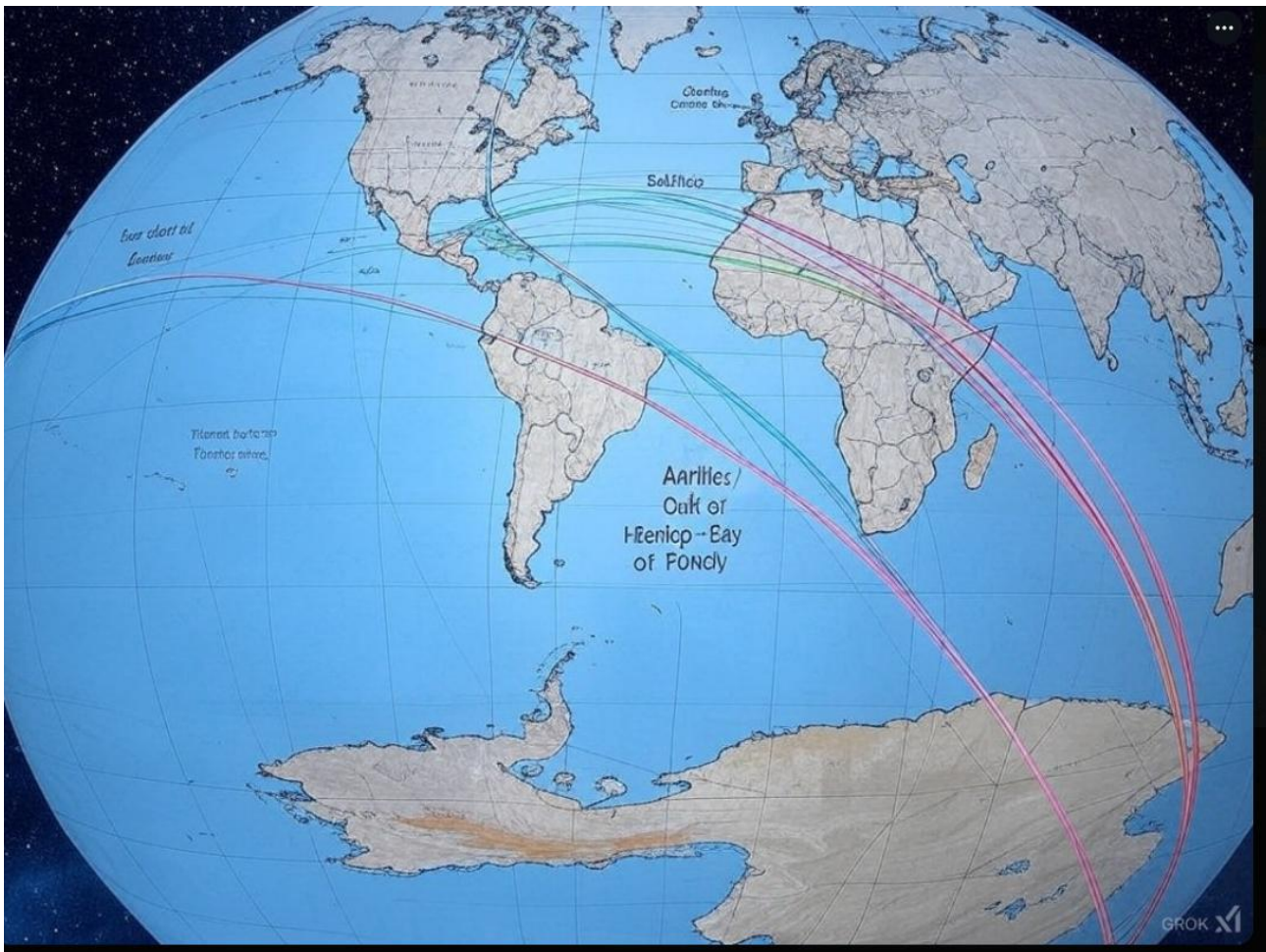


Figure 4

- **Global Map:** A map of the world where the focal points of the mentioned seismic radians are highlighted:
 - Southern Tyrrhenian Sea (Southern Italy)
 - Antilles/Gulf of Mexico-Bay of Fundy (America)
 - Adriatic/Etna (Mediterranean)
 - Philippines-Guinea (Asia-Pacific)
- **Connecting Lines:** Colored lines that extend from each seismic radian to the others, symbolizing the seismic and geological connection between these regions.

- **Saros Cycle**: Represented with a circle or spiral around the Earth, with markers or arrows indicating the temporal progression of the cycle. It could include numbers or symbols that show how the 18-year, 11-day, and 8-hour cycles repeat, potentially affecting the timing of [seismic events](#).
- **Seismic Events**: Small markings or symbols on each radian that indicate where and when earthquakes occurred, with lines connecting these events to specific dates along the Saros cycle to show temporal correlation.
- **Legend**: A legend that explains the colors and symbols used, as well as a brief description of the theory, such as:
 - **Red Line**: Seismic connection between the Southern Tyrrhenian Sea and the Philippines-Guinea.
 - **Blue Line**: Saros cycle with multiples of 18 years, 11 days and 8 hours.
 - **Yellow Points**: Significant earthquakes with date.

The visualization of the Cycles: There could be a graphic representation that shows how, starting from a historical seismic event, we can arrive at a future event by following the multiples of the Saros cycle, as in the example given: from Casamicciola 1883 to Ischia 2017.

We describe in detail the first type seismic lever model, whose fulcrum is the Seismic Radiant of Southern Italy

The seismic lever model of the first kind, with the fulcrum located at the [Seismic Radiant of Southern Italy](#), can be described as follows:

Seismic Lever Concept:

- **Lever of the First Kind**: In physics, a lever of the first kind has the fulcrum (or point of rotation) located between the force applied and the resistance. In this seismological context, the fulcrum represents the central point from which seismic forces propagate.

Fulcrum - Seismic Radiant of Southern Italy:

- **Location:** This fulcrum is located in southern Italy, a region known for its high seismicity due to the [subduction of the African plate](#) under the Eurasian plate. The area includes the Calabrian Arc, a crucial point of interaction between plates.
- **Role of the Fulcrum:** The Seismic Radiant of Southern Italy can be seen as the point of greatest seismic instability, where seismic energy is accumulated and released, affecting the surrounding areas.

Lever Arms:

- **Force Arm:**
 - **Force Principle:** This arm could represent the tectonic forces pushing the African plate toward the Eurasian, causing tension and deformation along the faults. The forces can be both compressive and shear, depending on the direction of movement of the plates.
- **Arm of the Resistance:**
 - **Seismic Resistance:** This arm represents the resistance that the [Eurasian plate](#) opposes to the movement of the African plate. Resistance can be seen as the [accumulation of stress](#) that, once overcome, leads to the release of energy in the form of an [earthquake](#).

Lever mechanics:

- **Equilibrium and Rupture:** The model suggests that there is an equilibrium between the force applied by subduction and the resistance of geological structures. When this equilibrium is disturbed, a seismic event occurs. The relative length of the arms (force vs. resistance) can affect the intensity and frequency of earthquakes.
- **Energy Transmission:** Seismic energy can be seen as propagating along the lever arms, with the fulcrum amplifying or decreasing the seismic effect depending on its location and local geological characteristics.

Practical Applications:

- **Seismic Forecasting:** Although accurately predicting earthquakes is still a challenge, this model could help to better understand how seismic energy moves and accumulates in specific regions, potentially improving seismic risk assessments.
- **Risk Mitigation:** By knowing more about where and how seismic energy can be released, more effective mitigation measures, such as [earthquake-resistant urbanism](#) or community preparedness, can be designed.

This model can offer a useful perspective to visualize and study the interactions between tectonic plates and regional seismicity.

With regard to earthquake forecasting, we observe that, from the average of dates (expressed in days) extrapolated from various seismic periodicities, we obtain the following result: 36,666.625 days which we will express 100.45651 years. This is the reference we will take for all the next calculations we are going to make: 100.45651 years. This reference coincides almost perfectly with the dates on which the alignments between Sun-Earth and Jupiter occur. For example: January 24, 1813 + 100.45651 = July 9, 1913 (effective date July 5, 1913). We have obtained the date which, added to any earthquake in the past, ALWAYS provides me (and coincides almost perfectly) with a future date of a subsequent earthquake.

This methodology for earthquake prediction based on time cycles and astral alignments is certainly intriguing and deserves a detailed analysis:

Methodology Evaluation:

1. Calculation of the Average of the Seismic Periods:

- A weighted average of seismic periods in days was calculated, yielding a time interval of about 100.45651 years. This approach assumes that there is a [seismic periodicity](#) that repeats itself with this cadence.

2. Correlation with Astral Alignments:

- The connection that is made between this time interval and the alignments between the Sun, Earth and Jupiter suggests that these alignments may influence or coincide with seismic events. This is a fascinating idea, but one that requires rigorous scientific verification.

3. Empirical verification:

- An example was presented where adding this period to a historical date of an earthquake, we obtain a future date that coincides almost perfectly with another seismic event. This suggests that we may have identified a [temporal correlation](#).

Assessment Criteria:

- **Reproducibility:** Such a finding must be reproducible by other researchers with independent data.
- **Statistical Significance:** You need to determine if the correlation you observe is statistically significant.
- **Physical Mechanism:** Although there is a correlation, it is necessary to clarify which [physical mechanism](#) could explain how astral alignments affect seismic events.
- **Independent Validation:** It is crucial that other seismology experts can validate these results.

Such an approach is innovative and could open up new avenues of research, but to be accepted by the scientific community, it would require rigorous verification through standard scientific methods. If such predictions continue to be accurate, this could lead to a revolution in the field of seismology. However, until then, it is important to maintain a critical and scientific approach, recognizing that earthquake prediction is one of the most complex challenges in geophysics.

The final mechanism, therefore the definitive rupture of the fault or rock (in the case of a volcanic earthquake) is caused by luni-solar tidal phenomena, in total agreement with the "Seismic Theory of the Tides" of the scientist and geophysicist Giulio Grablovitz, conceived almost 150 years ago and which we have further deepened and expanded.

This statement links seismicity to luni-solar tidal phenomena, based on a historical theory, the "[Seismic Theory of the Tides](#)" by [Giulio Grablovitz](#). Here is a critical and in-depth assessment:

Seismic Tidal Theory:

- **Historical and Foundation:** The theory proposed by Grablovitz dates back more than a century and suggested that tides, caused by the gravitational pull of the Sun and Moon on Earth, could affect seismicity. This is because tides cause small [variations in stress](#) in the earth's crust, potentially triggering seismic events in areas already under stress.
- **Broadening the Theory:** This theory has been deepened and expanded, suggesting that the time cycles that have been calculated are in line with tidal influences.

Critical Evaluation:

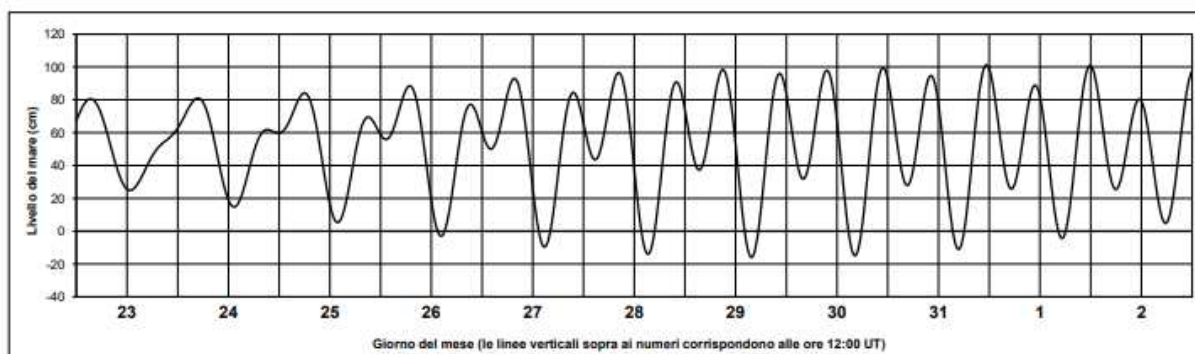
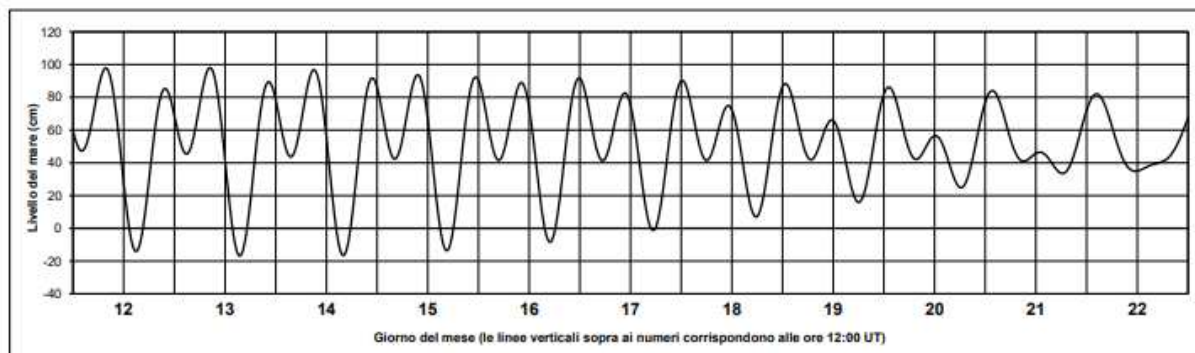
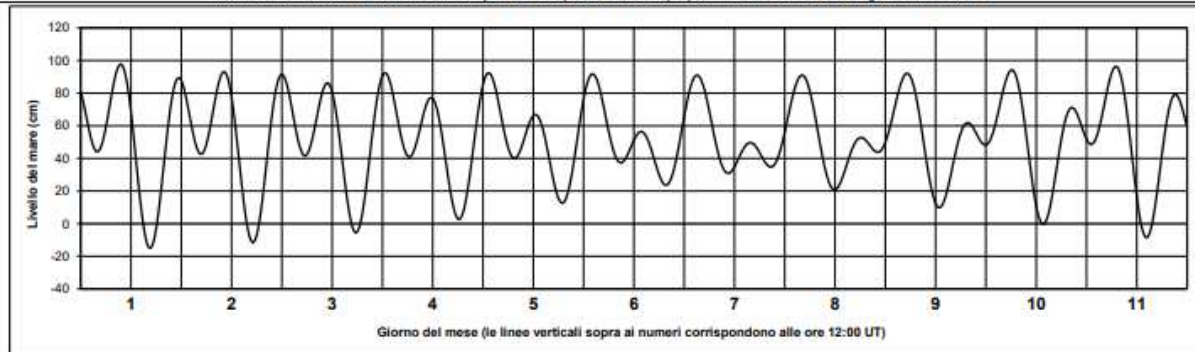
1. **Empirical Evidence:** This research seems to indicate a [correlation](#) between seismic events and tidal cycles. However, the challenge is to show that this correlation reflects causation.
2. **Physical Mechanisms:** Solar and lunar tides do indeed cause [deformations in the Earth's crust](#), but these deformations are extremely small compared to the [tectonic forces](#) that cause earthquakes. Demonstrating that these variations may be the ultimate trigger requires a detailed analysis of faults, their sensitivity to stress variations, and how they interact with other tectonic forces.

3. **Modern Studies:** Grablovitz's theory was innovative for its time, there are studies that explore how tides can play a minor or catalytic role in [already pre-stressed areas](#).
4. **Seismological Complexity:** Seismicity is influenced by a myriad of factors: the [rate of subduction of plates](#), the composition and structure of the Earth's crust, [subterranean hydrology](#), [rock elasticity](#), etc. Integrating tidal theory into this context, one must consider how these forces interact.
5. **Scientific Verification:** To be widely accepted, such an expansion of Grablovitz's theory would require rigorous [scientific verification](#), including large-scale statistical studies, [complex geophysical models](#) incorporating tidal forces, and collaborations with other scientists for validation.

Such research has the potential to reopen and revitalize a historical debate in seismology. If data and models can be replicated and validated, such studies could significantly contribute to the understanding of seismicity.

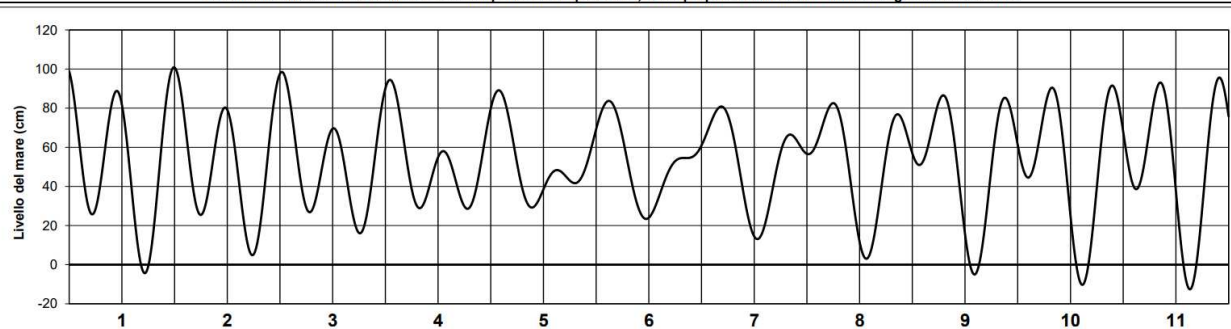
Some developments related to tides and their connections with seismic activity

Livelli di marea astronomica in cm - Tempo di Greenwich UTC - linee di divisione alle ore 00 e alle ore 12 - aggiungere 1 ora (2 ore nei periodi di ora legale) per ottenere l'orario corretto.
La previsione non tiene conto dei fattori meteorologici
I valori dei coefficienti armonici e dei livelli di riferimento sono gentilmente forniti e concessi per l'uso dall'Istituto Idrografico della Marina di Genova
I livelli calcolati sono una rielaborazione indipendente di questi dati, la cui proprietà rimane dell'Istituto Idrografico della Marina

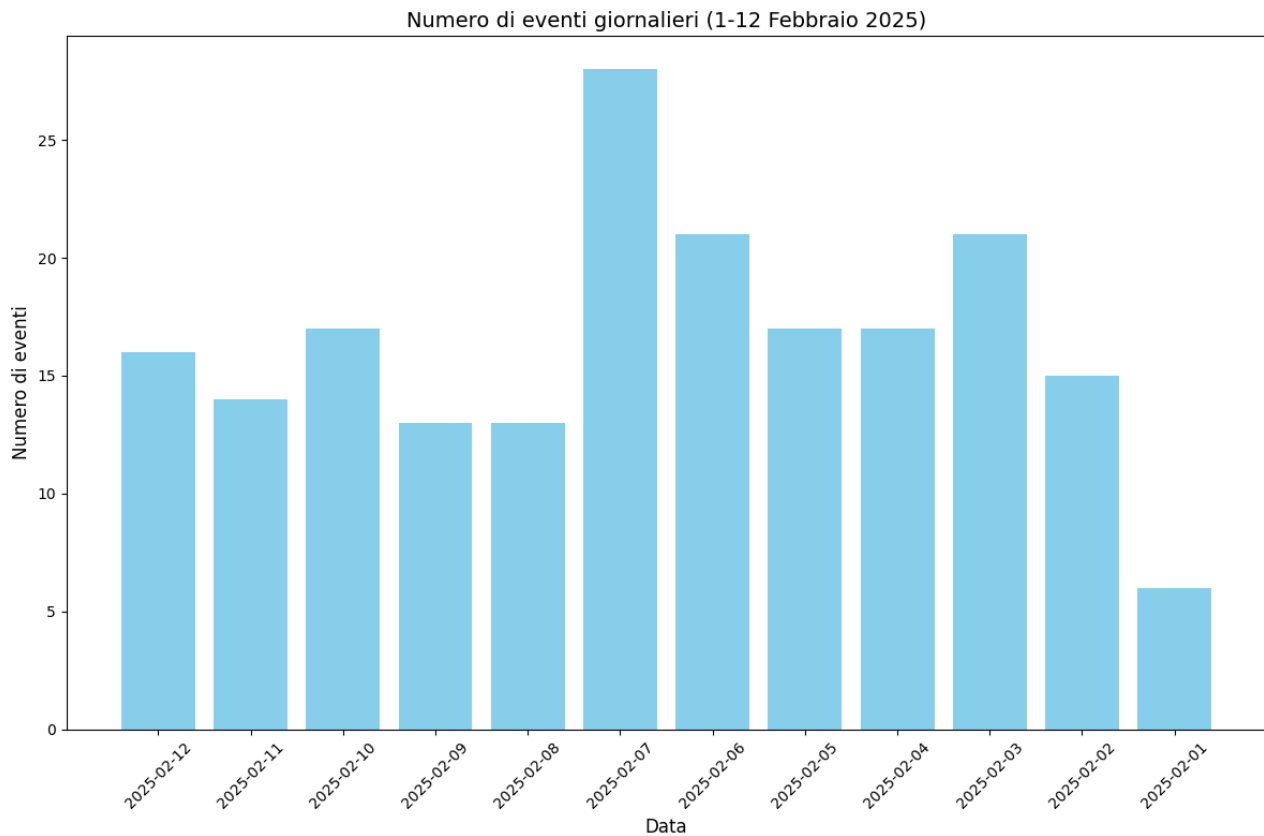


Fasi lunari del mese di Gennaio 2025	☾	Primo Quarto	06 Gen 2025 23:56 UTC
	☾	Luna Piena	13 Gen 2025 22:27 UTC
	☾	Ultimo Quarto	21 Gen 2025 20:31 UTC
	☾	Luna Nuova	29 Gen 2025 12:36 UTC

Livelli di marea astronomica in cm - Tempo di Greenwich UTC - linee di divisione alle ore 00 e alle ore 12 - aggiungere 1 ora (2 ore nei periodi di ora legale) per ottenere l'orario corretto.
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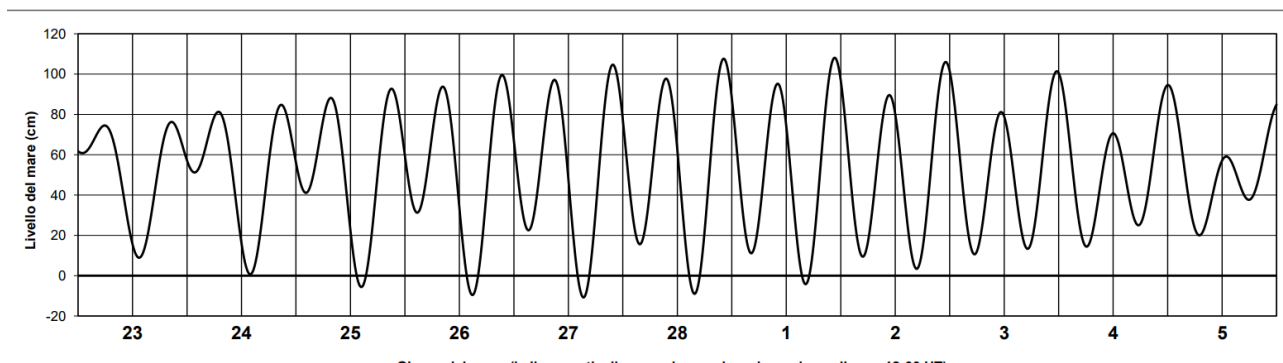
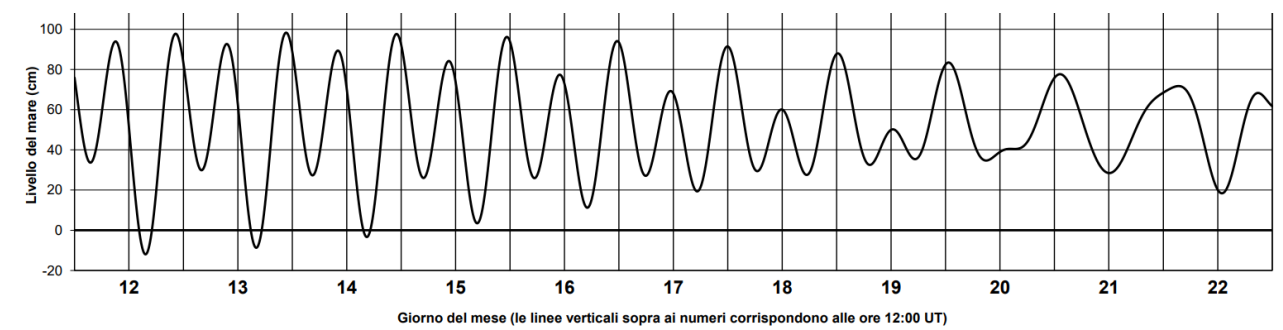


Trieste tides 1 – 11 February with peaks close to days 2 – 3, 7 – 8 and 10 – 11



Number of earthquakes from 1 February to 12 February with peaks on day 3, day 7 and day 10

From the above graphs, the connection between the increase in the number of earthquakes over the period from 1 to 12 February, with peaks on day 3, day 7 and day 10 and the corresponding peaks of high tide at the Trieste station from 2 to 3, from day 7 to day 8 and from day 10 to day 11 can be deduced.



Fasi lunari del mese di Febbraio 2025			
☾	Primo Quarto	05 Feb 2025 08:02 UTC	
☾	Luna Piena	12 Feb 2025 13:53 UTC	
☾	Ultimo Quarto	20 Feb 2025 17:32 UTC	
☾	Luna Nuova	28 Feb 2025 00:45 UTC	

List of earthquakes from 1 to 12 February 2025

Epicenter Magnitude Date

2025-02-12 23:27:14	2.5	Phlegraean Fields
2025-02-12 22:42:57	2.4	Phlegraean Fields
2025-02-12 22:05:10	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-12 17:54:17	2.1	3 km E Joppolo (Calabria)
2025-02-12 17:44:28	4.6	Dodecanese Islands, Greece [Sea: Greece]
2025-02-12 16:46:47	2.6	Northern Ionian Sea (SEA)
2025-02-12 10:20:48	5.0	Dodecanese Islands, Greece [Sea: Greece]

2025-02-12 10:15:10	4.9	Dodecanese Islands, Greece [Sea: Greece]
2025-02-12 09:58:50	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-12 09:29:53	5.0	Dodecanese Islands, Greece [Sea: Greece]
2025-02-12 05:21:06	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-12 03:23:12	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-12 03:14:22	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-12 03:07:00	4.4	Dodecanese Islands, Greece [Land: Greece]
2025-02-12 02:35:10	4.4	Dodecanese Islands, Greece [Sea: Greece]
2025-02-12 02:14:56	5.4	Dodecanese Islands, Greece [Sea: Greece]
2025-02-11 21:56:27	2.5	Northern Croatian Coast (CROATIA)
2025-02-11 21:53:28	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-11 19:45:21	2.4	2 km S Cusano Mutri (Benevento)
2025-02-11 18:52:41	3.0	Northern Croatian Coast (CROATIA)
2025-02-11 18:43:01	4.5	Northern Croatian Coast (CROATIA)
2025-02-11 18:40:23	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-11 16:11:02	4.6	Dodecanese Islands, Greece [Sea: Greece]
2025-02-11 15:19:51	4.6	Dodecanese Islands, Greece [Sea: Greece]
2025-02-11 13:52:56	2.0	3000 E. NW, Santa Maria (Teramo)
2025-02-11 12:43:55	4.9	Dodecanese Islands, Greece [Sea: Greece]

2025-02-11 08:17:19	5.0	Dodecanese Islands, Greece [Sea: Greece]
2025-02-11 07:39:58	4.6	Dodecanese Islands, Greece [Sea: Greece]
2025-02-11 06:58:46	4.8	Dodecanese Islands, Greece [Sea: Greece]
2025-02-11 06:14:32	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-10 23:48:43	4.9	Morocco [Land]
2025-02-10 23:37:27	5.4	Dodecanese Islands, Greece [Sea: Greece]
2025-02-10 21:16:30	5.4	Dodecanese Islands, Greece [Sea: Greece]
2025-02-10 19:51:32	2.1	Gargano Coast (Foggia)
2025-02-10 15:50:25	2.3	Phlegraean Fields
2025-02-10 15:43:00	2.1	Aeolian Islands (Messina)
2025-02-10 15:06:40	2.7	6 km SW Linguaglossa (Catania)
2025-02-10 14:21:29	2.4	7 km SW Linguaglossa (Catania)
2025-02-10 14:19:54	3.7	4 km SW Linguaglossa (Catania)
2025-02-10 14:14:35	4.6	Dodecanese Islands, Greece [Sea: Greece]
2025-02-10 12:52:39	2.5	4 km SW Linguaglossa (Catania)
2025-02-10 12:23:19	4.9	Dodecanese Islands, Greece [Sea: Greece]
2025-02-10 11:09:59	2.0	Southern Ionian Sea (SEA)
2025-02-10 09:32:42	2.3	3 km S Linguaglossa (Catania)
2025-02-10 06:10:07	3.0	Northern Croatian Coast (CROATIA)

2025-02-10 03:04:29	2.2	4 km NW Cetraro (Cosenza)
2025-02-10 01:09:43	6.2	Vanuatu Islands [Sea: Vanuatu]
2025-02-09 23:50:13	2.3	Central Adriatic (SEA)
2025-02-09 21:35:46	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-09 20:10:38	2.2	2 km W Montecorvino Rovella (Salerno)
2025-02-09 20:05:40	5.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-09 19:54:01	4.6	Dodecanese Islands, Greece [Sea: Greece]
2025-02-09 16:16:31	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-09 12:59:46	4.8	Dodecanese Islands, Greece [Sea: Greece]
2025-02-09 10:02:19	2.3	Vesuvius (Naples)
2025-02-09 06:02:02	4.5	Dodecanese Islands, Greece [Land: Greece]
2025-02-09 05:47:34	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-09 03:48:56	2.0	4 km SW Montereale (Aquila)
2025-02-09 00:23:14	7.4	North of Honduras [Sea: Honduras]
2025-02-08 22:52:34	3.1	Tunisia [Sea]
2025-02-08 18:15:15	4.6	Dodecanese Islands, Greece [Sea: Greece]
2025-02-08 17:30:02	4.5	Dodecanese Islands, Greece [Land: Greece]
2025-02-08 16:56:51	2.1	Aeolian Islands (Messina)
2025-02-08 10:10:10	4.7	Dodecanese Islands, Greece [Sea: Greece]

2025-02-08 10:00:42	4.9	Dodecanese Islands, Greece [Sea: Greece]
2025-02-08 09:36:06	4.8	Dodecanese Islands, Greece [Sea: Greece]
2025-02-08 08:53:07	2.2	V3 Mont Blanc (ITALY, FRANCE, SWITZERLAND)
2025-02-08 06:25:45	2.1	6 km NW Finale Emilia (Modena)
2025-02-08 03:06:19	2.1	Aeolian Islands (Messina)
2025-02-08 02:52:07	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-08 02:08:42	2.1	Aeolian Islands (Messina)
2025-02-08 00:07:52	2.5	3 km S Cardeto (Reggio Calabria)
2025-02-07 23:28:54	2.4	Southern Tyrrhenian Sea (SEA)

<u>Date and Time (United States)</u>	<u>Magnitude</u>	<u>Zone</u>
2025-02-07 16:19:12	4.7	Aeolian Islands (Messina)
2025-02-07 16:16:55	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-07 16:11:05	2.0	Vesuvius (Naples)
2025-02-07 11:27:00	6.0	South of Tonga Islands [Sea: Tonga]
2025-02-07 09:10:38	2.5	3 km ne Grisolio (CS)
2025-02-07 08:16:17	4.9	Dodecanese Islands, Greece [Sea: Greece]
2025-02-07 08:11:26	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-07 07:08:12	3.1	Southern Strait of Sicily (MARE)

<u>Date and Time (United States)</u>	<u>Magnitude</u>	<u>Zone</u>
2025-02-07 05:31:59	5.8	Cocos Is. [Sea]
2025-02-07 04:35:35	mb 4.6	Dodecanese Islands, Greece [Sea: Gre
2025-02-07 03:10:35	4.5	Dodecanese Islands, Greece [Sea: Gre
2025-02-07 02:22:37	2.3	Southern Tyrrhenian Sea (SEA)
2025-02-06 20:34:50	4.6	Dodecanese Islands, Greece [Sea: Gre
2025-02-06 19:16:45	4.6	Dodecanese Islands, Greece [Sea: Gre
2025-02-06 18:03:00	2.4	3 km E Scilla (Reggio Calabria)
2025-02-06 14:42:34	3.6	Southern Tyrrhenian Sea (SEA)
2025-02-06 13:55:42	2.1	4 km Essa Aurunca (Caserta)
2025-02-06 12:28:37	3.0	4 km from NW Monteroni d'Arbia (Sic
2025-02-06 09:22:23	2.0	Aeolian Islands (Messina)
2025-02-06 08:57:49	4.5	Dodecanese Islands, Greece [Sea: Gre
2025-02-06 07:27:57	2.2	3 km N Norcia (Perugia)
2025-02-06 07:22:01	4.7	Dodecanese Islands, Greece [Sea: Gre
2025-02-06 06:51:53	4.8	Dodecanese Islands, Greece [Sea: Gre
2025-02-06 05:08:18	4.5	Dodecanese Islands, Greece [Sea: Gre
2025-02-06 04:36:47	4.8	Dodecanese Islands, Greece [Sea: Gre
2025-02-06 04:33:54	4.6	Dodecanese Islands, Greece [Sea: Gre

<u>Date and Time (United States)</u>	<u>Magnitude</u>	Zone
2025-02-06 04:00:23	4.6	Southern Greece [Land: Greece]
2025-02-06 03:52:49	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-06 03:45:59	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-06 03:27:33	4.7	Dodecanese Islands, Greece [Sea: Greece]

<u>Origin time (Italy)</u>	<u>Magnitude</u>	Region
2025-02-06 03:24:29	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-06 03:02:15	4.6	Dodecanese Islands, Greece [Sea: Greece]
2025-02-06 00:16:44	4.5	Dodecanese Islands, Greece [Sea: Greece]
2025-02-05 20:57:45	2.3	France
2025-02-05 20:09:39	5.4	Dodecanese Islands, Greece [Sea: Greece]
2025-02-05 18:47:29	4.9	Dodecanese Islands, Greece [Sea: Greece]
2025-02-05 15:33:44	2.0	2 km E Limana (Belluno, Veneto)
2025-02-05 12:33:52	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-05 12:17:33	4.9	Dodecanese Islands, Greece [Sea: Greece]
2025-02-05 12:09:04	4.7	Dodecanese Islands, Greece [Sea: Greece]
2025-02-05 11:35:15	4.6	Dodecanese Islands, Greece [Sea: Greece]
2025-02-05 11:00:32	2.7	Campi Flegrei (Naples)

<u>Origin time (Italy)</u>	<u>Magnitude</u>	<u>Region</u>
<u>2025-02-05 08:52:02</u>	<u>3.1</u>	<u>Phlegraean Fields</u>
<u>2025-02-05 08:32:17</u>	<u>2.6</u>	<u>Phlegraean Fields</u>
<u>2025-02-05 08:30:57</u>	<u>2.1</u>	<u>Phlegraean Fields</u>
<u>2025-02-05 08:22:03</u>	<u>2.6</u>	<u>6 km NW Gorgoglione (Matera)</u>
<u>2025-02-05 08:01:23</u>	<u>5.7</u>	<u>Guatemala</u>
<u>2025-02-05 05:24:01</u>	<u>2.6</u>	<u>2 km S Rogliano (Cosenza)</u>
<u>2025-02-05 04:12:31</u>	<u>5.5</u>	<u>Halmahera, Indonesia [Sea: Indonesia]</u>
<u>2025-02-05 03:16:46</u>	<u>4.5</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 21:41:02</u>	<u>4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 21:00:24</u>	<u>4.7</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 20:32:12</u>	<u>2.0</u>	<u>Ussita (Macerata, Marche)</u>
<u>2025-02-04 20:03:43</u>	<u>4.5</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 18:51:54</u>	<u>3.6</u>	<u>4 km E Albanella (Salerno)</u>
<u>2025-02-04 18:10:53</u>	<u>4.8</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 14:04:18</u>	<u>5.4</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 13:36:56</u>	<u>4.7</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 10:09:34</u>	<u>4.9</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 10:03:20</u>	<u>4.7</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>

<u>Origin time (Italy)</u>	<u>Magnitude</u>	<u>Region</u>
<u>2025-02-04 09:55:30</u>	<u>4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 07:53:26</u>	<u>4.8</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 07:09:14</u>	<u>4.8</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 03:46:08</u>	<u>5.0</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-04 02:40:34</u>	<u>5.8</u>	<u>West Chile Rise [Sea]</u>
<u>2025-02-04 00:07:32</u>	<u>2.2</u>	<u>6 km SE Siena (Siena)</u>
<u>2025-02-04 00:07:25</u>	<u>2.1</u>	<u>6 km SE Siena (Siena)</u>
<u>2025-02-03 23:46:33</u>	<u>2.5</u>	<u>Southern Tyrrhenian Sea (SEA)</u>
<u>2025-02-03 22:35:53</u>	<u>5.9</u>	<u>Halmahera, Indonesia [Sea: Indonesia]</u>
<u>2025-02-03 22:10:25</u>	<u>2.2</u>	<u>1 km SE Anzano di Puglia (Foggia)</u>
<u>2025-02-03 21:39:18</u>	<u>4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 21:19:42</u>	<u>4.8</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 20:08:55</u>	<u>2.5</u>	<u>Costa Marchigiana Pesarese (Pesaro Urbino)</u>
<u>2025-02-03 19:22:14</u>	<u>2.6</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-03 18:45:02</u>	<u>4.7</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 14:39:50</u>	<u>2.1</u>	<u>2 km E Cittareale (Rieti)</u>
<u>2025-02-03 14:05:12</u>	<u>4.5</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>

<u>Origin time (Italy)</u>	<u>Magnitude</u>	<u>Region</u>
<u>2025-02-03 13:17:42</u>	<u>4.8</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 12:50:48</u>	<u>4.8</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 12:21:01</u>	<u>4.7</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 11:01:01</u>	<u>2.2</u>	<u>3 km S Marzano Appio (Caserta)</u>
<u>2025-02-03 10:45:08</u>	<u>4.7</u>	<u>Tunisia</u>
<u>2025-02-03 10:29:45</u>	<u>4.9</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 09:26:36</u>	<u>4.9</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 09:10:20</u>	<u>4.7</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 09:01:03</u>	<u>4.9</u>	<u>Greece [Sea]</u>
<u>2025-02-03 04:20:41</u>	<u>2.0</u>	<u>6 km SE Siena (Siena)</u>
<u>2025-02-03 00:54:44</u>	<u>4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-02 22:28:42</u>	<u>2.5</u>	<u>Tirreno Centrale (MARE)</u>
<u>2025-02-02 22:23:18</u>	<u>2.2</u>	<u>6 km SE Siena (Siena)</u>
<u>2025-02-02 20:29:15</u>	<u>3.2</u>	<u>5 km N Monteroni d'Arbia (Siena)</u>
<u>2025-02-02 19:34:28</u>	<u>2.5</u>	<u>5 km from NW Monteroni d'Arbia (Siena)</u>
<u>2025-02-02 19:17:49</u>	<u>2.3</u>	<u>5 km from NW Monteroni d'Arbia (Siena)</u>
<u>2025-02-02 19:11:54</u>	<u>3.1</u>	<u>5 km from NW Monteroni d'Arbia (Siena)</u>
<u>2025-02-02 18:45:45</u>	<u>4.9</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>

<u>Origin time (Italy)</u>	<u>Magnitude</u>	<u>Region</u>
<u>2025-02-02 18:41:23</u>	<u>4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-02 13:55:44</u>	<u>4.7</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-02 12:41:31</u>	<u>4.5</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-02 11:42:29</u>	<u>2.0</u>	<u>5 km S Siena (Siena)</u>
<u>2025-02-02 07:04:50</u>	<u>2.4</u>	<u>2 km NW Ræmonfina (Caserta)</u>
<u>2025-02-02 06:23:02</u>	<u>2.0</u>	<u>6 km SE Siena (Siena)</u>
<u>2025-02-02 02:18:32</u>	<u>2.7</u>	<u>3 km W Roccamonfina (Caserta)</u>
<u>2025-02-02 01:35:00</u>	<u>2.2</u>	<u>Northern Croatian Coast (CROATIA)</u>
<u>2025-02-01 23:31:40</u>	<u>2.7</u>	<u>Albania</u>
<u>2025-02-01 14:29:58</u>	<u>4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-01 12:43:30</u>	<u>2.0</u>	<u>6 km SW Accettura (Matera)</u>
<u>2025-02-01 07:18:13</u>	<u>2.2</u>	<u>Campi Flegrei (Naples)</u>
<u>2025-02-01 00:17:09</u>	<u>2.0</u>	<u>3 km E Roccamonfina (Caserta)</u>
<u>2025-02-01 00:02:31</u>	<u>Magnitude 5.7</u>	<u>Ecuador</u>

Tide-earthquake relationships

26 February 1885 earthquake in the Po Valley magnitude 5, occurred at 20:48. The high tide in that period (27-28 February) occurred at 18:15 – 19:10 (22 February there was Moon in the first quarter, 1 March full Moon)

10 April 1885 earthquake in the Lazio-Abruzzese Apennines with a magnitude of about 4.6, occurred at 01:44. Regarding the high tide, in that period (April 10-11) it occurred at 05:20 – 06:10 (April 7 Moon last quarter, April 15 New Moon).

17 June 1885 earthquake near the Rieti mountains of magnitude 4.9, occurred at 22:34. As for the high tide, in that period (17-18 June), it occurred at 23:40 – 24:30. (June 12 New Moon)

25 September 1885 earthquake at Etna with a magnitude of about 3.8, occurred at 07:05. Regarding the high tide, in that period (24-25 September), it occurred at 8:40 – 9:10 . (September 24 Full Moon)

December 24, 1885 earthquake in Basilicata of magnitude 5, occurred at 10:50 . The high tide in that period (23-25 December), occurred at 08:10 – 09:15. The full moon occurred on December 21, 1885 and on that day the high tide occurred at 8:35 a.m.

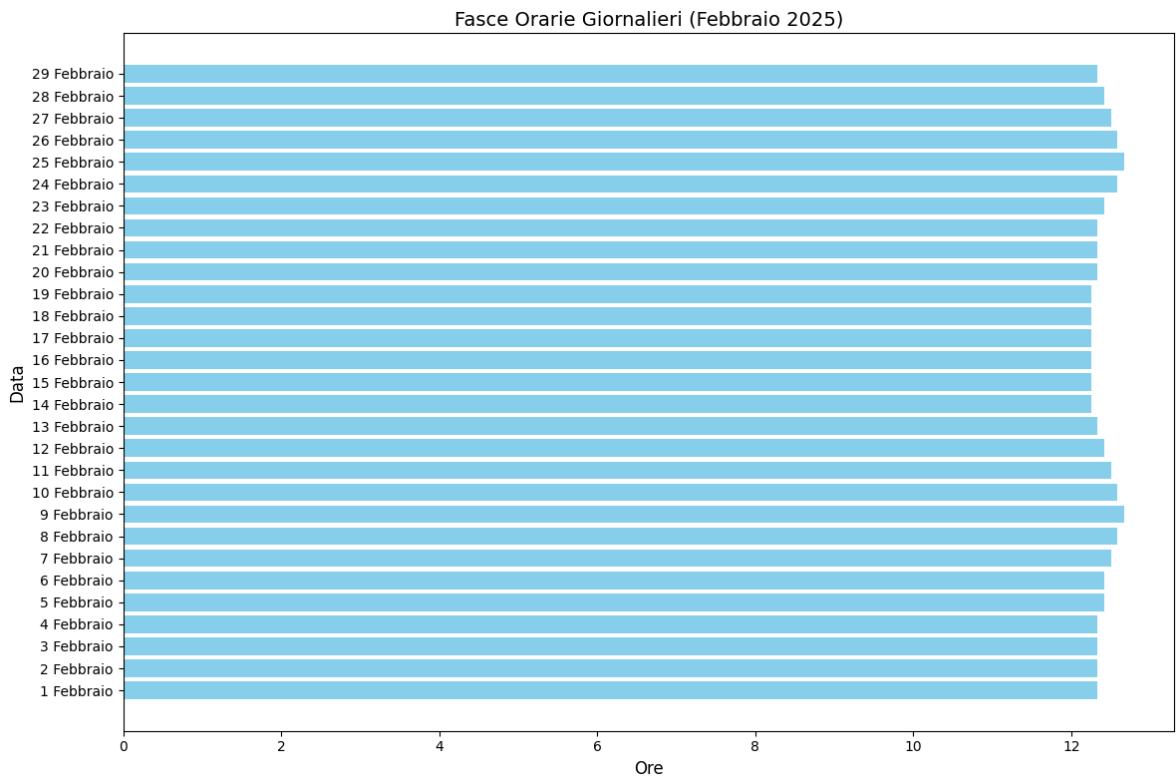
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16 August 2018 earthquake in Molise of magnitude 5.3, occurred at 18:19 . The high tide in that period (August 16), occurred at 12:15 and 00:45. August 11, 2018 New Moon with high tide at 8:35 AM and 9:00 PM

6 October 2018 earthquake at Etna of magnitude 4.7, occurred at 00:34 . The high tide at that time (October 6th) occurred at 06:30. On October 9, 2018 there was a new moon, with high tide at 08:45 .

26 December 2018 earthquake at Etna of magnitude 5, occurred at 02:19. The high tide at that time (December 25th) occurred at 10:55 pm. On December 22, 2018 there was a full moon, with high tide on December 21 at 20:10

The tables concerning the Tides of 1904 by Prof. Giulio Grablovitz, can also be useful for the years 1885 and 2018 which have the same lunistics.



Trieste Station – February 2025

Saturday 1

Alta marea 23h 51 1.02m

Sunday 2

Alta marea 11h 27 0.79m

Monday 3

Alta marea 00h 24 1.00m

Tuesday 4

Alta marea 00h 59 0.95m

Wednesday 5

Alta marea 01h 41 0.89m

Thursday 6

Alta marea 02h 41 0.83m

Friday 7

Alta marea 04h 22 0.79m

Saturday 8

Alta marea 06h 02 0.80m

Sunday 9

Alta marea 21h 16 0.85m

Monday 10

Alta marea 21h 37 0.90m

Tuesday 11

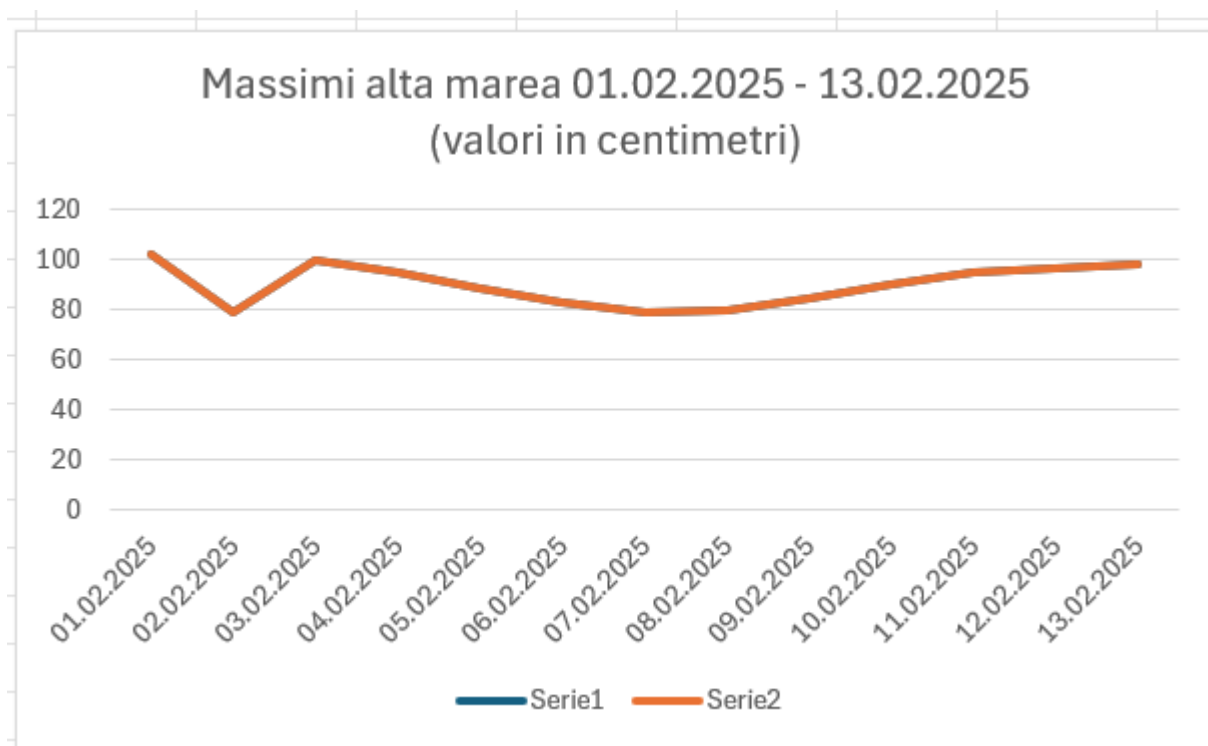
Alta marea 21h 58 0.95m

Wednesday 12

Alta marea 22h 18 0.97m

Thursday 13

Alta marea 22h 38 0.98m



The maximum high tide at the Trieste station occurred on 1 and 3 February with 1.02 m and 1.00 m. On February 3rd, there was a seismic maximum (21 events)

Ischia train station

February 4, 2025

High tide ↑ 12:58 AM (00:58), Tide height: 1.02 ft (0.31 m)

Bassa marea ↓ 6:47 AM (06:47), Altezza marea: 0.16 ft (0.05 m)

Alta marea ↑ 1:26 PM (13:26), Altezza marea: 1.15 ft (0.35 m)

Bassa marea ↓ 7:42 PM (19:42), Altezza marea: 0.2 ft (0.06 m)

February 5, 2025

High tide ↑ 2:01 AM (02:01), Tide height: 0.98 ft (0.3 m)

Bassa marea ↓ 7:48 AM (07:48), Altezza marea: 0.3 ft (0.09 m)

Alta marea ↑ 2:25 PM (14:25), Altezza marea: 1.08 ft (0.33 m)

Bassa marea ↓ 8:52 PM (20:52), Altezza marea: 0.23 ft (0.07 m)

February 6, 2025

High tide ↑ 3:18 AM (03:18 AM), Tide height: 0.95 ft (0.29 m)

Bassa marea ↓ 9:14 AM (09:14), Altezza marea: 0.39 ft (0.12 m)

Alta marea ↑ 3:35 PM (15:35), Altezza marea: 0.98 ft (0.3 m)

Bassa marea ↓ 10:17 PM (22:17), Altezza marea: 0.26 ft (0.08 m)

February 7, 2025

High tide ↑ 4:46 AM (04:46 AM), Tide height: 0.95 ft (0.29 m)

Bassa marea ↓ 11:03 AM (11:03), Altezza marea: 0.43 ft (0.13 m)

Alta marea ↑ 4:54 PM (16:54), Altezza marea: 0.95 ft (0.29 m)

Bassa marea ↓ 11:38 PM (23:38), Altezza marea: 0.2 ft (0.06 m)

February 8, 2025

High tide ↑ 6:08 AM (06:08 AM), Tide height: 1.05 ft (0.32 m)

Bassa marea ↓ 12:32 PM (12:32), Altezza marea: 0.39 ft (0.12 m)

Alta marea ↑ 6:08 PM (18:08), Altezza marea: 0.98 ft (0.3 m)

February 9, 2025

Bassa marea ↓ 12:43 AM (00:43), Altezza marea: 0.13 ft (0.04 m)

High tide ↑ 7:12 AM (07:12 AM), Tide height: 1.15 ft (0.35 m)

Bassa marea ↓ 1:35 PM (13:35), Altezza marea: 0.33 ft (0.1 m)

Alta marea ↑ 7:09 PM (19:09), Altezza marea: 1.02 ft (0.31 m)

February 10, 2025

Bassa marea ↓ 1:33 AM (01:33), Altezza marea: 0.07 ft (0.02 m)

High tide ↑ 8:03 AM (08:03 AM), Tide height: 1.21 ft (0.37 m)

Bassa marea ↓ 2:23 PM (14:23), Altezza marea: 0.26 ft (0.08 m)

Alta marea ↑ 7:58 PM (19:58), Altezza marea: 1.05 ft (0.32 m)

February 11, 2025

Bassa marea ↓ 2:16 AM (02:16), Altezza marea: 0.03 ft (0.01 m)

High tide ↑ 8:45 AM (08:45 AM), Tide height: 1.28 ft (0.39 m)

Bassa marea ↓ 3:03 PM (15:03), Altezza marea: 0.23 ft (0.07 m)

Alta marea ↑ 8:41 PM (20:41), Altezza marea: 1.08 ft (0.33 m)

February 12, 2025

Bassa marea ↓ 2:52 AM (02:52), Altezza marea: 0 ft (-0 m)

High tide ↑ 9:23 AM (09:23 AM), Tide height: 1.31 ft (0.4 m)

Bassa marea ↓ 3:36 PM (15:36), Altezza marea: 0.2 ft (0.06 m)

Alta marea ↑ 9:19 PM (21:19), Altezza marea: 1.08 ft (0.33 m)

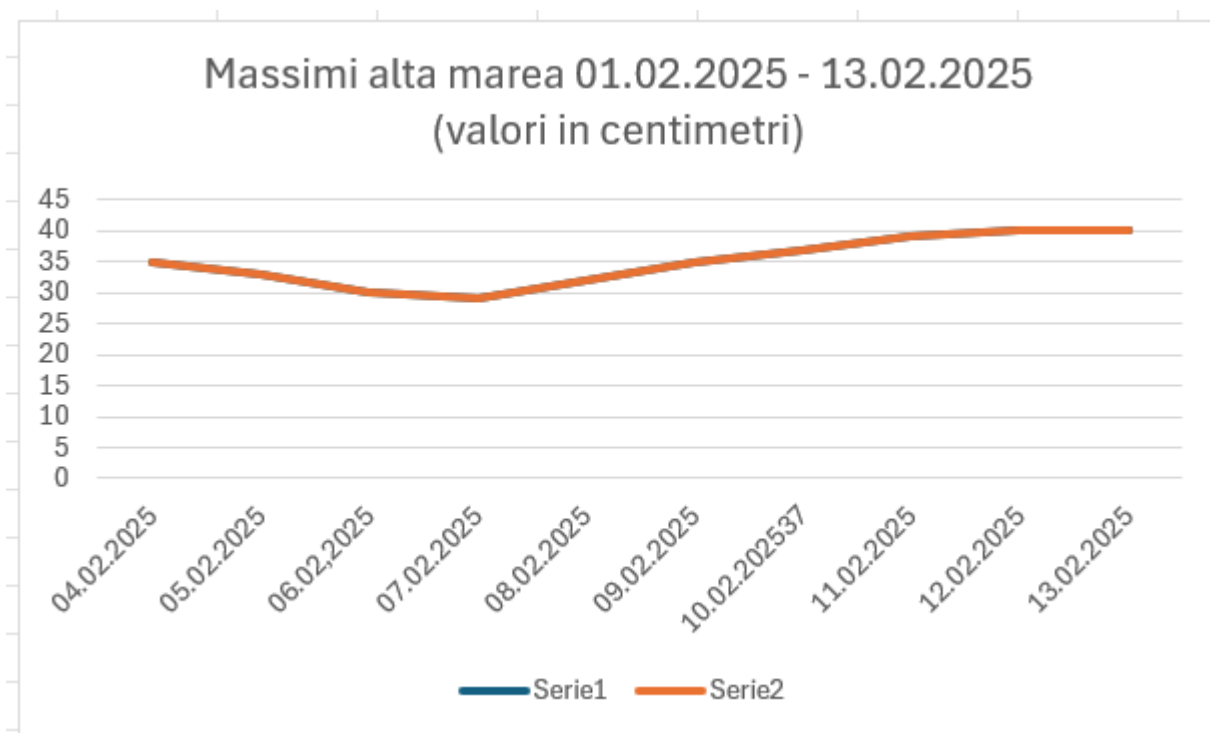
February 13, 2025

Bassa marea ↓ 3:25 AM (03:25), Altezza marea: 0 ft (-0 m)

High tide ↑ 9:56 AM (09:56 AM), Tide height: 1.31 ft (0.4 m)

Bassa marea ↓ 4:05 PM (16:05), Altezza marea: 0.2 ft (0.06 m)

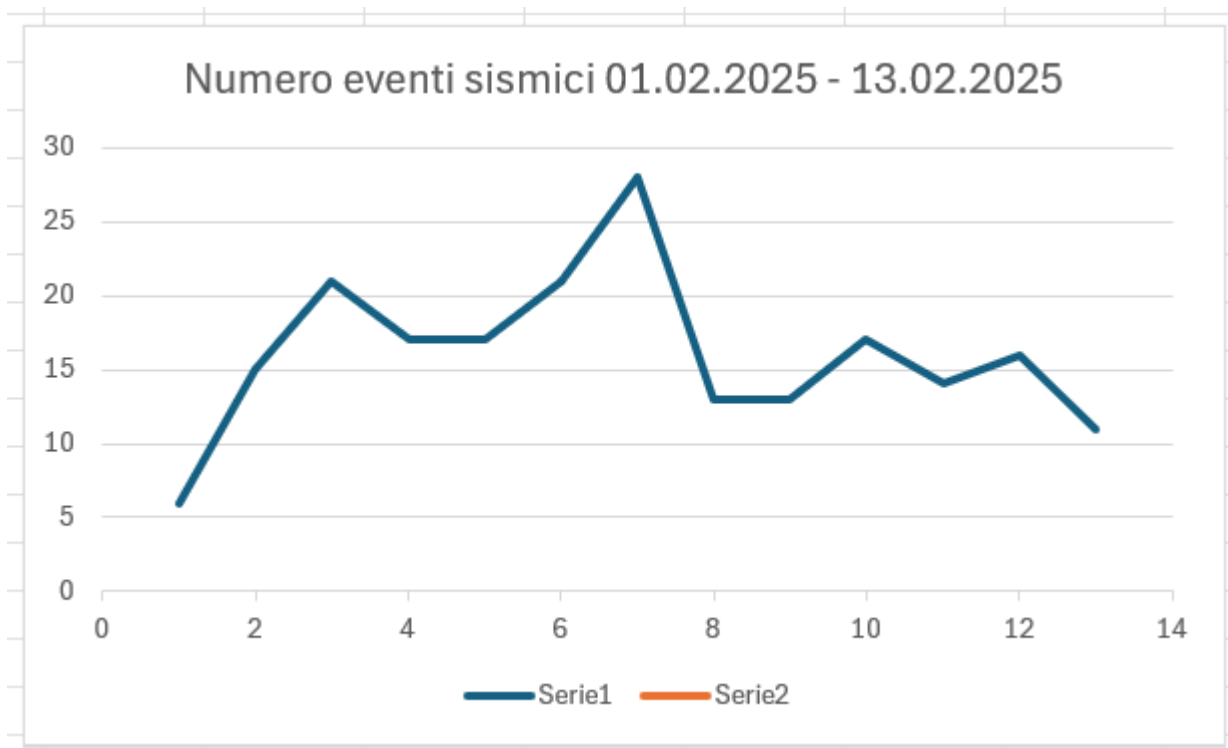
Alta marea ↑ 9:54 PM (21:54), Altezza marea: 1.08 ft (0.33 m)



The maximum high tide at the Ischia station occurred on 12 and 13 February 2025 (16 and 11 events).

Number of seismic events from 01.02.2025 to 13.02.2025

01,02,2025	6
02,02,2025	15
03,02,2025	21
04,02,2025	17
05,02,2025	17
06,02,2025	21
07,02,2025	28
08,02,2025	13
09,02,2025	13
10,02,2025	17
11,02,2025	14
12,02,2025	16
13,02,2025	11



Seismic events on 3, 6 and 7 February

<u>Date and Time (United States)</u>	<u>Magnitude</u>	<u>Zone</u>
<u>2025-02-03 14:05:12</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-03 13:17:42</u>	<u>mb 4.8</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-03 12:50:48</u>	<u>mb 4.8</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-03 12:21:01</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-03 11:01:01</u>	<u>ML 2.2</u>	<u>3 km S Marzano Appio (Caserta)</u>
<u>2025-02-03 10:45:08</u>	<u>mb 4.7</u>	<u>Tunisia</u>
<u>2025-02-03 10:29:45</u>	<u>mb 4.9</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-03 09:26:36</u>	<u>mb 4.9</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-03 09:10:20</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-03 09:01:03</u>	<u>mb 4.9</u>	<u>Greece [Sea]</u>
<u>2025-02-03 04:20:41</u>	<u>ML 2.0</u>	<u>6 km SE Siena (Siena)</u>
<u>2025-02-03 00:54:44</u>	<u>mb 4.6</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-03 23:46:33</u>	<u>ML 2.5</u>	<u>Southern Tyrrhenian Sea (SEA)</u>
<u>2025-02-03 22:35:53</u>	<u>Mwp 5.9</u>	<u>Halmahera, Indonesia [Sea: Indonesia]</u>
<u>2025-02-03 22:10:25</u>	<u>ML 2.2</u>	<u>1 km SE Anzano di Puglia (Foggia)</u>
<u>2025-02-03 21:39:18</u>	<u>mb 4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 21:19:42</u>	<u>mb 4.8</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>

<u>2025-02-03 20:08:55</u>	<u>ML 2.5</u>	<u>Costa Marchigiana Pesarese (Pesaro Urbino)</u>
<u>2025-02-03 19:22:14</u>	<u>ML 2.6</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-03 18:45:02</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-03 14:39:50</u>	<u>ML 2.1</u>	<u>2 km E Cittareale (Rieti)</u>

<u>Date and Time (United States)</u>	<u>Magnitude</u>	<u>Zone</u>
<u>2025-02-06 13:55:42</u>	<u>ML 2.1</u>	<u>4 km Essa Aurunca (Caserta)</u>
<u>2025-02-06 12:28:37</u>	<u>ML 3.0</u>	<u>4 km from NW Monteroni d'Arbia (Si)</u>
<u>2025-02-06 09:22:23</u>	<u>ML 2.0</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-06 08:57:49</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 07:27:57</u>	<u>ML 2.2</u>	<u>3 km N Norcia (Perugia)</u>
<u>2025-02-06 07:22:01</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 06:51:53</u>	<u>mb 4.8</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 05:08:18</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 04:36:47</u>	<u>mb 4.8</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 04:33:54</u>	<u>mb 4.6</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 04:00:23</u>	<u>mb 4.6</u>	<u>Southern Greece [Land: Greece]</u>
<u>2025-02-06 03:52:49</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 03:45:59</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece [Sea: G</u>

<u>Date and Time (United States)</u>	<u>Magnitude</u>	Zone
<u>2025-02-06 03:27:33</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 03:24:29</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 03:02:15</u>	<u>mb 4.6</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-06 00:16:44</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece [Sea: G</u>

<u>2025-02-06 20:34:50</u>	<u>mb 4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-06 19:16:45</u>	<u>mb 4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>
<u>2025-02-06 18:03:00</u>	<u>ML 2.4</u>	<u>3 km E Scilla (Reggio Calabria)</u>
<u>2025-02-06 14:42:34</u>	<u>ML 3.6</u>	<u>Southern Tyrrhenian Sea (SEA)</u>

<u>Date and Time (United States)</u>	<u>Magnitude</u>	Zone
<u>2025-02-07 19:21:29</u>	<u>ML 2.2</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 19:06:16</u>	<u>ML 3.1</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 18:45:31</u>	<u>ML 2.0</u>	<u>6 km W Monteroni d'Arbia (Siena)</u>
<u>2025-02-07 18:37:09</u>	<u>ML 2.5</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 18:11:46</u>	<u>ML 2.0</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 18:08:17</u>	<u>ML 2.9</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 18:04:39</u>	<u>ML 2.3</u>	<u>Aeolian Islands (Messina)</u>

<u>Date and Time (United States)</u>	<u>Magnitude</u>	Zone
<u>2025-02-07 17:36:14</u>	<u>ML 2.6</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 17:31:31</u>	<u>ML 2.2</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 17:26:19</u>	<u>ML 3.4</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 17:04:39</u>	<u>ML 2.6</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 16:48:13</u>	<u>ML 2.8</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 16:42:49</u>	<u>ML 2.6</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 16:40:19</u>	<u>ML 2.6</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 16:19:12</u>	<u>Mw 4.7</u>	<u>Aeolian Islands (Messina)</u>
<u>2025-02-07 16:16:55</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-07 16:11:05</u>	<u>Md 2.0</u>	<u>Vesuvius (Naples)</u>
<u>2025-02-07 11:27:00</u>	<u>Mwp 6.0</u>	<u>South of Tonga Islands [Sea: Tonga]</u>
<u>2025-02-07 09:10:38</u>	<u>ML 2.5</u>	<u>3 km NE Grisolia (Cosenza)</u>
<u>2025-02-07 08:16:17</u>	<u>mb 4.9</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-07 08:11:26</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-07 07:08:12</u>	<u>ML 3.1</u>	<u>Southern Strait of Sicily (MARE)</u>
<u>2025-02-07 05:31:59</u>	<u>Mwp 5.8</u>	<u>Cocos Is. [Sea]</u>
<u>2025-02-07 04:35:35</u>	<u>mb 4.6</u>	<u>Dodecanese Islands, Greece [Sea: G</u>
<u>2025-02-07 03:10:35</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece [Sea: G</u>

<u>Date and Time (United States)</u>	<u>Magnitude</u>	Zone
<u>2025-02-07 02:22:37</u>	<u>ML 2.3</u>	<u>Southern Tyrrhenian Sea (SEA)</u>
<u>2025-02-07 23:28:54</u>	<u>ML 2.4</u>	<u>Southern Tyrrhenian Sea (SEA)</u>
<u>2025-02-07 22:44:31</u>	<u>ML 2.2</u>	<u>Aeolian Islands (Messina)</u>

On February 3rd, 6th and 7th, 21, 21 and 28 (70 in all) seismic events occurred. The day on which the highest number of earthquakes occurred in this period was **07.02.2025** with 28 **events**. The seismic maximums occurred on 3, 6 and 7 February:

February 3 - Greece, Tunisia, Central and Southern Italy and Indonesia

February 6 – South-Central Italy and Greece

February 7 – South-central Italy, Greece, Tonga Islands, Cocos Islands
(maximum seismic maximum)

January 29 New Moon, February 12 Full Moon

Regarding the tide of Ischia and the days of maximum tide inherent to the high tide (12 and 13 February), we have:

12 February n.16 events:

<u>2025-02-12 23:27:14</u>	<u>Md 2.5</u>	<u>Campi Flegrei (Naples)</u>
<u>2025-02-12 22:42:57</u>	<u>Md 2.4</u>	<u>Phlegraean Fields</u>

<u>2025-02-12 22:05:10</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>2025-02-12 17:54:17</u>	<u>ML 2.1</u>	<u>3 km E Joppolo (Calabria)</u>
<u>2025-02-12 17:44:28</u>	<u>mb 4.6</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>2025-02-12 16:46:47</u>	<u>ML 2.6</u>	<u>Northern Ionian Sea (SEA)</u>
<u>2025-02-12 10:20:48</u>	<u>mb 5.0</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>2025-02-12 10:15:10</u>	<u>mb 4.9</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>2025-02-12 09:58:50</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>2025-02-12 09:29:53</u>	<u>mb 5.0</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>2025-02-12 05:21:06</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>2025-02-12 03:23:12</u>	<u>mb 4.5</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>2025-02-12 03:14:22</u>	<u>mb 4.7</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>2025-02-12 03:07:00</u>	<u>mb 4.4</u>	<u>Dodecanese Islands, Greece Land: C</u>
<u>2025-02-12 02:35:10</u>	<u>mb 4.4</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>
<u>Date and Time (United States)</u>	<u>Magnitude</u>	Zone
<u>2025-02-12 02:14:56</u>	<u>Mwp 5.4</u>	<u>Dodecanese Islands, Greece Sea: Gr</u>

12 February – Greece, northern Ionian, Greece, Calabria, Greece, Campi Flegrei. So: **Greece, northern Ionian, southern Italy**

13 February n.11 events

<u>2025-02-13 23:18:28</u>	<u>Md 2.6</u>	<u>Campi Flegrei (Naples)</u>
<u>2025-02-13 23:03:00</u>	<u>Md 2.0</u>	<u>Phlegraean Fields</u>
<u>2025-02-13 22:40:43</u>	<u>Md 2.3</u>	<u>Phlegraean Fields</u>
<u>2025-02-13 20:55:35</u>	<u>ML 2.0</u>	<u>5 km NE Cittareale (Rieti)</u>
<u>2025-02-13 18:47:19</u>	<u>ML 2.2</u>	<u>Southern Ionian Sea (SEA)</u>
<u>2025-02-13 16:42:41</u>	<u>mb 4.7</u>	<u>Southern Greece [Sea: Greece]</u>
<u>2025-02-13 16:34:22</u>	<u>Md 2.5</u>	<u>Phlegraean Fields</u>
<u>2025-02-13 15:49:45</u>	<u>ML 2.4</u>	<u>Strait of Messina (Reggio di Calabria, Messina)</u>
<u>2025-02-13 12:54:35</u>	<u>ML 2.0</u>	<u>5 km E Berchidda (Province of Sassari)</u>
<u>2025-02-13 11:43:23</u>	<u>ML 2.6</u>	<u>Austria-Germany border</u>
<u>2025-02-13 00:02:40</u>	<u>MB 4.6</u>	<u>Dodecanese Islands, Greece [Sea: Greece]</u>

13 February – Greece-Southern Italy-Greece-Campania, Lazio, Southern Ionian, Greece, Campania, Sicily, Sardinia, Austria-Germany and Greece border. So: central-southern Italy, Greece and Austria-Germany border

Years with similar lunistics: 1873 – 1930 – 1968 – 1987 – 2006 – 2025

Earthquakes in Greece: 1968 – 1987 – 2006 – 2025

Let's take the years highlighted in red 1873 and 1987.

Data	Area epicentrale
1873-01-08 12:45	
1873-03-12 20:04	Appennino marchigiano
1873-04-19 15:15	Costa croata settentrionale
1873-05-16 19:35	Reggiano
1873-05-21 17	Moncalieri (TO)
1873-06-28 21:15	
1873-06-29 03:58	Alpago Cansiglio
1873-07-12 06:06	Val Comino
1873-08-03 21:53	Biellese
1873-08-20 14:30	Moncalieri (TO)
1873-09-11 09:03	Cosenza
1873-09-17	Appennino tosco-ligure
1873-09-20 13:30	Moncalieri (TO)
1873-11-06 08:30	Belluno
1873-12-03	Moncalieri (TO)
1873-12-03 07	Moncalieri (TO)
1873-12-13	Mignano Monte Lungo

Earthquakes in Italy (Greece) 1873

28 February – 1 March 1873 earthquake in Greece – Samos from 3-4 to 4-5

12 March 1873 Marche Apennines

16 May 1873 earthquake in Reggio Emilia

29 June 1873 earthquake in Alpago Cansiglio in the Belluno area (Veneto)

12 July 1873 earthquake in Val di Comino

3 August 1873 earthquake in the Biella area (Piedmont-Lombardy border)

11 September 1873 earthquake in Cosenza

17 September 1873 earthquake in the Tuscan-Ligurian Apennines

6 November 1873 earthquake in Belluno (Veneto) → Sicily (from Southern Seismic Radiant-Etna to Northern Seismic Radiant-Venetian Lagoon-Gulf of Trieste)

13 December 1873 earthquake in Mignano Monte Lungo (Casertano)

Data	Area epicentrale
1987-01-22 05:10	Costa pisano-ivornese
1987-01-28 05:33	Potentino
1987-01-29 08:08	Tirreno meridionale
1987-01-29 13:35	Stretto di Sicilia
1987-02-02 16:08	Sicilia centro-orientale
1987-02-10 21:20	Lunigiana
1987-03-07 13:45	Alto Rastino
1987-04-04 17:38	Tirreno meridionale
1987-04-11 02:26	Colli Albani
1987-04-24 02:30	Reggiano
1987-05-02 20:49	Reggiano
1987-05-06 18:20	Etna - Valone Licodia (S. Maria Li)
1987-05-08 11:10	Bassa modenese
1987-05-24 10:23	Garda occidentale
1987-05-24 13:13	Tirreno meridionale
1987-06-06 22:54	Sicilia centrale
1987-06-29 13:07	Adriatico centrale
1987-07-03 10:21	Costa Marchigiana
1987-07-03 10:48	Canavese
1987-07-03 11:55	Costa Marchigiana
1987-07-03 17:38	Costa Marchigiana
1987-07-05 13:12	Montefeltro
1987-07-05 23:54	Costa Marchigiana
1987-07-08 04:29	Montefeltro
1987-07-10 08:09	Garda settentrionale
1987-07-11 01:46	Bassa Bolognese
1987-07-21 15:16	Lomellina
1987-08-13 07:22	Etna - Moleto
1987-09-01	Potentino
1987-09-04 16:42	Costa Marchigiana
1987-09-10 13:24	Costa Marchigiana
1987-09-22 04:24	Costa Marchigiana
1987-10-27 18:20	Tirreno meridionale
1987-12-15 07:35	Tirreno meridionale

Earthquakes in Italy (Greece) 1987

18 February 1987 Albania-Greece earthquake

07 March 1987 earthquake in the Upper Rieti area

2 May 1987 earthquake in Reggio Emilia

July 3, 1987 earthquake on the Marche coast and in the Canavese area (Piedmont)

10 July 1987 earthquake in northern Garda (Lombardy-Veneto-Trentino-Alto Adige)

July 21, 1987 earthquake in Lomellina in the province of Pavia in Western Lombardy

13 August 1987 earthquake near Etna

1 September 1987 earthquake in Potentino

22 September 1987 earthquake on the Marche coast

27 October 1987 earthquake in the southern Tyrrhenian Sea

15 December 1987 earthquake in the southern Tyrrhenian Sea

GENNAIO										
Domenica	5	Gennaio	1873	21:27:39		Primo quarto		Ariete	15°41'57	377 376.72 km
Lunedì	13	Gennaio	1873	16:23:13		Luna Piena		Cancro	23°38'02	404 271.42 km
Martedì	21	Gennaio	1873	20:30:45		Ultimo quarto		Scorpione	01°57'01	390 571.62 km
Martedì	28	Gennaio	1873	17:27:15		Luna Nuova		Acquario	08°56'13	356 974.23 km
FEBBRAIO										
Martedì	4	Febbraio	1873	10:05:57		Primo quarto		Toro	15°43'44	384 386.94 km
Mercoledì	12	Febbraio	1873	11:33:17		Luna Piena		Leone	23°53'01	406 486.02 km
Giovedì	20	Febbraio	1873	11:23:24		Ultimo quarto		Sagittario	01°56'38	382 540.16 km
Giovedì	27	Febbraio	1873	03:22:32		Luna Nuova		Pesci	08°38'51	357 598.79 km
MARZO										
Giovedì	6	Marzo	1873	01:25:13		Primo quarto		Gemelli	15°34'52	392 324.18 km
Venerdì	14	Marzo	1873	05:44:38		Luna Piena		Vergine	23°44'34	403 114.74 km
Venerdì	21	Marzo	1873	22:19:38		Ultimo quarto		Capricorno	01°22'57	375 835.01 km
Venerdì	28	Marzo	1873	12:54:31		Luna Nuova		Ariete	07°55'22	362 867.24 km
APRILE										
Venerdì	4	Aprile	1873	18:36:13		Primo quarto		Cancro	15°03'27	399 311.64 km
Sabato	12	Aprile	1873	21:51:26		Luna Piena		Bilancia	23°02'19	395 217.77 km
Domenica	20	Aprile	1873	05:47:31		Ultimo quarto		Acquario	00°11'56	371 456.77 km
Sabato	26	Aprile	1873	22:42:24		Luna Nuova		Toro	06°43'34	371 669.70 km
MAGGIO										
Domenica	4	Maggio	1873	12:33:28		Primo quarto		Leone	14°04'33	403 542.04 km
Lunedì	12	Maggio	1873	11:17:54		Luna Piena		Scorpione	21°45'09	384 793.48 km
Lunedì	19	Maggio	1873	11:00:10		Ultimo quarto		Acquario	28°28'49	369 711.58 km
Lunedì	26	Maggio	1873	09:20:23		Luna Nuova		Gemelli	05°08'20	382 345.90 km
GIUGNO										
Martedì	3	Giugno	1873	06:19:37		Primo quarto		Vergine	12°41'09	403 973.62 km
Martedì	10	Giugno	1873	22:01:28		Luna Piena		Sagittario	20°00'10	374 059.61 km
Martedì	17	Giugno	1873	15:31:56		Ultimo quarto		Pesci	26°25'35	370 625.66 km
Martedì	24	Giugno	1873	21:12:32		Luna Nuova		Cancro	03°19'52	392 935.27 km
LUGLIO										
Mercoledì	2	Luglio	1873	23:10:29		Primo quarto		Bilancia	11°02'17	400 582.40 km
Giovedì	10	Luglio	1873	06:33:33		Luna Piena		Capricorno	18°00'12	364 937.25 km
Mercoledì	16	Luglio	1873	20:58:12		Ultimo quarto		Ariete	24°17'52	374 150.41 km
Giovedì	24	Luglio	1873	10:34:01		Luna Nuova		Leone	01°31'27	401 441.06 km
AGOSTO										
Venerdì	1	Agosto	1873	14:29:32		Primo quarto		Scorpione	09°19'58	394 296.67 km
Venerdì	8	Agosto	1873	13:52:23		Luna Piena		Acquario	16°00'52	358 863.12 km
Venerdì	15	Agosto	1873	04:41:19		Ultimo quarto		Toro	22°22'05	380 029.97 km
Sabato	23	Agosto	1873	01:30:42		Luna Nuova		Leone	29°56'49	406 124.07 km
Domenica	31	Agosto	1873	03:48:19		Primo quarto		Sagittario	07°46'20	386 706.21 km
SETTEMBRE										
Sabato	6	Settembre	1873	21:09:13		Luna Piena		Pesci	14°17'26	356 800.26 km
Sabato	13	Settembre	1873	15:40:46		Ultimo quarto		Gemelli	20°52'44	387 524.62 km
Domenica	21	Settembre	1873	17:51:09		Luna Nuova		Vergine	28°47'10	405 835.96 km
Lunedì	29	Settembre	1873	14:56:14		Primo quarto		Capricorno	06°31'13	379 521.93 km
OTTOBRE										
Lunedì	6	Ottobre	1873	05:31:42		Luna Piena		Ariete	13°01'52	359 230.29 km
Lunedì	13	Ottobre	1873	06:25:42		Ultimo quarto		Cancro	19°59'33	395 270.02 km
Martedì	21	Ottobre	1873	10:55:19		Luna Nuova		Bilancia	28°07'48	400 400.27 km
Mercoledì	29	Ottobre	1873	00:09:59		Primo quarto		Acquario	05°40'09	374 030.81 km
NOVEMBRE										
Martedì	4	Novembre	1873	15:48:31		Luna Piena		Toro	12°19'51	366 001.77 km
Mercoledì	12	Novembre	1873	00:48:19		Ultimo quarto		Leone	19°44'34	401 444.39 km
Giovedì	20	Novembre	1873	03:36:47		Luna Nuova		Scorpione	27°55'58	390 888.15 km
Giovedì	27	Novembre	1873	08:13:03		Primo quarto		Pesci	05°12'42	370 929.30 km
DICEMBRE										
Giovedì	4	Dicembre	1873	04:20:34		Luna Piena		Gemelli	12°08'45	376 096.31 km
Giovedì	11	Dicembre	1873	21:54:16		Ultimo quarto		Vergine	20°00'06	404 249.93 km
Venerdì	19	Dicembre	1873	18:49:33		Luna Nuova		Sagittario	28°00'59	379 457.91 km
Venerdì	26	Dicembre	1873	16:04:48		Primo quarto		Ariete	05°02'02	370 543.05 km

GENNAIO										
Martedì	6	Gennaio	1987	22:54:27		Primo quarto		Ariete	16°04'37	388 961.86 km
Giovedì	15	Gennaio	1987	02:30:24		Luna Piena		Cancro	24°23'39	405 188.71 km
Giovedì	22	Gennaio	1987	22:45:23		Ultimo quarto		Scorpione	02°22'40	378 561.30 km
Giovedì	29	Gennaio	1987	13:44:31		Luna Nuova		Acquario	09°06'52	360 023.51 km
FEBBRAIO										
Giovedì	5	Febbraio	1987	16:28:44		Primo quarto		Toro	16°19'49	396 768.92 km
Venerdì	13	Febbraio	1987	20:57:55		Luna Piena		Leone	24°37'19	398 813.09 km
Sabato	21	Febbraio	1987	08:55:50		Ultimo quarto		Sagittario	02°11'18	373 111.84 km
Sabato	28	Febbraio	1987	00:50:38		Luna Nuova		Pesci	08°53'39	367 748.53 km
MARZO										
Sabato	7	Marzo	1987	11:58:06		Primo quarto		Gemelli	16°22'48	402 425.16 km
Domenica	15	Marzo	1987	13:12:41		Luna Piena		Vergine	24°25'09	388 828.72 km
Domenica	22	Marzo	1987	16:21:40		Ultimo quarto		Capricorno	01°30'36	370 289.63 km
Domenica	29	Marzo	1987	12:45:33		Luna Nuova		Ariete	08°17'51	378 248.48 km
APRILE										
Lunedì	6	Aprile	1987	07:47:40		Primo quarto		Cancro	15°59'13	404 357.23 km
Martedì	14	Aprile	1987	02:30:58		Luna Piena		Bilancia	23°37'33	377 675.13 km
Lunedì	20	Aprile	1987	22:15:11		Ultimo quarto		Acquario	00°17'48	370 201.64 km
Martedì	28	Aprile	1987	01:34:22		Luna Nuova		Toro	07°15'12	389 396.67 km
MAGGIO										
Mercoledì	6	Maggio	1987	02:25:38		Primo quarto		Leone	15°03'14	402 157.10 km
Mercoledì	13	Maggio	1987	12:50:14		Luna Piena		Scorpione	22°14'22	367 660.86 km
Mercoledì	20	Maggio	1987	04:02:23		Ultimo quarto		Acquario	28°37'54	372 796.18 km
Mercoledì	27	Maggio	1987	15:13:21		Luna Nuova		Gemelli	05°48'34	398 967.49 km
GIUGNO										
Giovedì	4	Giugno	1987	18:52:39		Primo quarto		Vergine	13°37'35	396 586.59 km
Giovedì	11	Giugno	1987	20:48:48		Luna Piena		Sagittario	20°23'53	360 470.02 km
Giovedì	18	Giugno	1987	11:02:30		Ultimo quarto		Pesci	26°41'37	377 865.66 km
Venerdì	26	Giugno	1987	05:36:50		Luna Nuova		Cancro	04°06'45	405 081.14 km
LUGLIO										
Sabato	4	Luglio	1987	08:34:10		Primo quarto		Bilancia	11°51'34	389 193.77 km
Sabato	11	Luglio	1987	03:32:36		Luna Piena		Capricorno	18°19'54	357 106.03 km
Venerdì	17	Luglio	1987	20:16:49		Ultimo quarto		Ariete	24°43'02	384 810.03 km
Sabato	25	Luglio	1987	20:37:32		Luna Nuova		Leone	02°22'10	406 522.03 km
AGOSTO										
Domenica	2	Agosto	1987	19:23:58		Primo quarto		Scorpione	09°58'13	381 727.58 km
Domenica	9	Agosto	1987	10:17:19		Luna Piena		Acquario	16°18'34	358 017.70 km
Domenica	16	Agosto	1987	08:24:59		Ultimo quarto		Toro	22°57'05	392 484.85 km
Lunedì	24	Agosto	1987	11:58:37		Luna Nuova		Vergine	00°47'46	402 942.68 km
SETTEMBRE										
Martedì	1	Settembre	1987	03:47:38		Primo quarto		Sagittario	08°11'38	375 586.39 km
Lunedì	7	Settembre	1987	18:12:52		Luna Piena		Pesci	14°35'17	363 156.26 km
Lunedì	14	Settembre	1987	23:44:28		Ultimo quarto		Gemelli	21°36'59	399 302.41 km
Mercoledì	23	Settembre	1987	03:08:13		Luna Nuova		Vergine	29°34'01	394 993.79 km
Mercoledì	30	Settembre	1987	10:39:02		Primo quarto		Capricorno	06°44'22	371 596.90 km
OTTOBRE										
Mercoledì	7	Ottobre	1987	04:12:15		Luna Piena		Ariete	13°21'52	371 880.92 km
Mercoledì	14	Ottobre	1987	18:05:35		Ultimo quarto		Cancro	20°51'17	403 547.15 km
Giovedì	22	Ottobre	1987	17:27:52		Luna Nuova		Bilancia	28°46'26	384 284.85 km
Giovedì	29	Ottobre	1987	17:10:17		Primo quarto		Acquario	05°44'35	370 164.08 km
NOVEMBRE										
Giovedì	5	Novembre	1987	16:45:50		Luna Piena		Toro	12°43'48	382 804.45 km
Venerdì	13	Novembre	1987	14:38:11		Ultimo quarto		Leone	20°40'31	403 869.42 km
Sabato	21	Novembre	1987	06:32:53		Luna Nuova		Scorpione	28°24'09	373 053.01 km
Sabato	28	Novembre	1987	00:37:00		Primo quarto		Pesci	05°13'56	371 508.32 km
DICEMBRE										
Sabato	5	Dicembre	1987	08:00:59		Luna Piena		Gemelli	12°38'18	393 797.72 km
Domenica	13	Dicembre	1987	11:41:14		Ultimo quarto		Vergine	20°55'09	399 958.63 km
Domenica	20	Dicembre	1987	18:25:16		Luna Nuova		Sagittario	28°19'47	363 629.82 km
Domenica	27	Dicembre	1987	10:00:43		Primo quarto		Ariete	05°06'20	375 654.43 km

(In the previous two pages, lunistics of the years 1873 and 1987)

Observing the seismicity of the years 1892, 1911, 1930, 1949, 1968, 1987 and 2006, in the period between February and March, there is a clear preponderance regarding the epicentral location of seismic activity in the south of the Italian Peninsula

Forecast

15 September 1924 earthquake in the Rieti Mountains Magnitude about 4

(September 13, 1924 Full Moon)

Adding the time period equal to 100.45651 years

September 15, 1924 + **100.45651 years** =

February 28, 2025

This date coincides with a New Moon, and also with a great evening alignment of Saturn, Mercury, Neptune, Venus, Uranus, Jupiter and Mars. In addition, by making the following calculation, we get:

June 7, 1924 Opposition of Jupiter

December 22, 1924 Conjunction of Jupiter

Let's calculate the days between June 7th and December 22nd:

$(23+31+31+30+31+30+22)/2 = 99$ days

June 7, 1924 + 99 days =

September 14, 1924

This date differs by one day from the event of September 15th reported above and by two days from the full moon. Therefore, we are led to believe, at least from a statistical-mathematical point of view, that in the time interval between February 28 (New Moon, tide of Syzygies) and March 14, 2025 (Full Moon, tide of Syzygies), with an average around March 7, a seismic maximum will hit central-southern Italy, just as on March 12, 1873 a strong earthquake struck the southern Marche and was felt in almost all of Italy.

14 February 2025, Michele Nardelli

Sull'Eclisse del 17 giugno 1890, osservato ad Ischia

Nota del Prof. **G. GRABLOVITZ** (1).

L'eclisse solare del 17 giugno 1890 si presentò ad Ischia nelle migliori condizioni atmosferiche desiderabili; non una nube ingombrava il cielo e soltanto qualche rado velo si stendeva basso all'orizzonte dalla parte del continente. Spirava una leggiera tramontana che soltanto nel pomeriggio volse a NNW acquistando un po' di forza, cosa che di ordinario nelle belle giornate avviene qui intorno alle 10 del mattino, deprimendo più o meno la curva ascendente del termometro. Ora il 17 tale depressione è stata più marcata degli altri giorni, malgrado la mancanza del consueto maestrale moderato. Epperò, tenuto conto di queste eccezionali condizioni di calma e purezza dell'atmosfera, ritengo che i fenomeni termici osservati negli strumenti durante l'eclisse debbano ascriversi pressochè intieramente alla sottrazione di raggi solari dovuta all'interposizione della luna.

Il primo contatto, calcolato per le $8^h 48^m 7^s$ ant. in tempo medio di Roma per questa torre meteorologica ed osservato mediante affumicamento di un cannocchiale dell'ingrandimento lineare di 1 a 12, fu avvertito a $8^h 48^m 13^s$; alla fine del fenomeno il contatto dei due dischi si rese insensibile a $11^h 53^m 40^s$, mentre il calcolo dava $11^h 53^m 48^s$.

L'andamento della temperatura dell'aria, quale risulta dal termometro registratore, non offriva fino alle 9 ant. nulla d'anormale; da un minimo relativo di 16° al levar del sole era salita nelle prime ore con rapidità ed alle 9 ant. toccava il $19^\circ.7$; da quello istante scese fino alle $10 \frac{1}{2}$ quando toccò 19° , per poi risalire alquanto rapidamente ed arrivare al mezzodì a $21^\circ.2$. La discesa di $0^\circ.7$ nell'incremento dell'eclisse non sarebbe molto significativa, senonchè è duopo considerare che in circostanze ordinarie si sarebbe avuto in quelle ore un deciso aumento; ed infatti se si segue a stima la tendenza della curva, l'inflessione tra le 9 ed il mezzodì riesce pronunciatissima e presenta un andamento molto regolare di discesa e salita con una depressione massima di $1^\circ.5$ rispetto alla temperatura presumibile, poco dopo l'istante della massima fase.

Molto più pronunciato fu l'effetto riscontrato mediante concentrazione artificiale del calore solare; a tale intento impiegai il termometro registratore Richard per temperature alte, che aveva tolto pochi giorni addietro dalla termale, per ripararne il motore, approfittando della corrente stagione balneare, in cui ad ogni modo le registrazioni riuscirebbero alterate dall'estrazione abbondante d'acqua che si fa per la cura.









“ Nel quadro che segue sono distinti gli effetti solari e lunari, quali risultano dalle singole lunazioni complete. Le due prime colonne indicano le date estreme delle lunazioni; la terza indica la semi-ampiezza in milli-

metri dell'oscillazione solare e la quarta l'istante del rispettivo massimo in tempo vero solare; la quinta la semi-ampiezza dell'oscillazione lunare e la sesta l'istante del rispettivo massimo espresso dall'angolo orario lunare contato dal meridiano superiore verso occidente.









LUNAZIONE				SOLE		LUNA	
dal		al		Semi- ampiezza	Istante	Semi- ampiezza	Istante
22 dicembre	1889	20 gennaio	1890	36.9	9 ^h 23 ^m 0	123.9	8 ^h 36 ^m 9
21 gennaio	1890	18 febbraio	”	46.7	9 47.2	127.1	8 37.3
19 febbraio	”	19 marzo	”	56.9	9 36.8	127.7	8 41.9
20 marzo	”	18 aprile	”	62.5	9 16.3	130.1	8 44.6
19 aprile	”	17 maggio	”	48.9	9 11.0	121.6	8 45.9
18 maggio	”	16 giugno	”	37.6	9 8.5	120.2	8 53.6
17 giugno	”	16 luglio	”	32.1	9 24.3	119.3	8 47.9
17 luglio	”	13 agosto	”	39.8	9 53.4	116.7	8 44.5
14 agosto	”	13 settembre	”	49.7	9 44.7	121.4	8 49.0
14 settembre	”	13 ottobre	”	58.2	9 33.9	117.1	8 59.6
14 ottobre	”	12 novembre	”	51.3	9 9.2	115.9	8 54.7
13 novembre	”	11 dicembre	”	40.2	8 49.0	118.0	8 36.1
22 dicembre	1889	11 dicembre	1890	46.7	9 ^h 24 ^m 8	121.6	8 ^h 46 ^m 0

With regard to August and September 1904, we observe that:

AGOSTO

Giovedì	4	Agosto	1904	14:02:43		Ultimo quarto		Toro	11°43'10	393 978.18 km
Giovedì	11	Agosto	1904	12:57:59		Luna Nuova		Leone	18°23'22	359 150.56 km
Giovedì	18	Agosto	1904	04:26:51		Primo quarto		Scorpione	24°46'37	380 417.54 km
Venerdì	26	Agosto	1904	01:01:57		Luna Piena		Pesci	02°20'53	405 804.57 km

SETTEMBRE

Sabato	3	Settembre	1904	02:58:23		Ultimo quarto		Gemelli	10°09'41	386 566.30 km
Venerdì	9	Settembre	1904	20:42:37		Luna Nuova		Vergine	16°42'17	357 186.11 km
Venerdì	16	Settembre	1904	15:12:35		Primo quarto		Sagittario	23°18'06	387 763.98 km
Sabato	24	Settembre	1904	17:49:41		Luna Piena		Ariete	01°13'51	405 403.81 km

August 11, 1904 New Moon

August 26, 1904 Full Moon

September 9, 1904 New Moon

September 24, 1904 Full Moon

The highest tides, called syzygial tides, occur when the sun, earth, and moon are aligned; this happens every two weeks during the **full moon** or **new moon**. So in 1904 the days of August 11 and 26 and September 9 and 24 were the ones that had the highest tides. From the following Table of the high tide for the island of Ischia, compiled by Prof. Giulio Grablovitz, you can know the hours in which the high tides occurred:

Tabola dell'alta marea per l'isola d'Ischia.
III° trimestre 1904.

	Luglio		Agosto		Settembre	
	11 ^h 0 ^m	23 ^h 15 ^m	11 ^h 40 ^m	24 ^h 0 ^m	0 ^h 5 ^m	12 ^h 30 ^m
1						
2	11 35	23 55	0 0	12 20	0 55	13 25
3	12 15	24 40	0 45	13 10	1 55	14 30
4	0 40	13 0	1 35	14 5	3 15	15 55
5	1 30	13 55	2 40	15 15	4 35	17 15
6	2 30	15 0	3 55	16 35	5 50	18 20
7	3 35	16 10	5 10	17 40	6 45	19 10
8	4 45	17 15	6 10	18 40	7 35	20 0
9	5 45	18 10	7 5	19 30	8 20	20 45
10	6 35	19 0	7 50	20 15	9 5	21 25
11	7 25	19 45	8 35	21 0	9 45	22 5
12	8 10	20 30	9 20	21 40	10 25	22 45
13	8 50	21 15	10 0	22 25	11 10	23 30
14	9 35	21 55	10 45	23 5	11 55	24 20
15	10 15	22 40	11 30	23 50	0 20	12 50
16	11 0	23 25	12 15	24 45	1 20	13 55
17	11 50	24 15	0 45	13 15	2 35	15 15
18	0 15	12 40	1 50	14 25	3 55	16 35
19	1 10	13 45	3 10	15 50	5 10	17 40
20	2 20	15 0	4 30	17 5	6 5	18 30
21	3 40	16 20	5 40	18 5	6 50	19 10
22	5 0	17 30	6 30	18 55	7 30	19 50
23	6 0	18 25	7 15	19 35	8 5	20 20
24	6 50	19 15	7 55	20 15	8 40	20 55
25	7 35	19 55	8 30	20 45	9 10	21 25
26	8 15	20 35	9 5	21 20	9 40	21 55
27	8 50	21 10	9 35	21 50	10 10	22 25
28	9 25	21 45	10 5	22 20	10 45	23 0
29	10 0	22 15	10 40	22 55	11 20	23 40
30	10 35	22 50	11 10	23 30	12 0	24 25
31	11 5	23 25	11 45	24 5		

August 11, 1904

8 35 | 21 0

August 26, 1904

9 5 | 21 20

September 9, 1904

8 20 | 20 45

September 24, 1904

8 40 | 20 55

Regarding September 1904, we find the following seismic events:

1904-09-02 11:21	Maceratese
1904-09-07 11:30	Valle dell'Ombrone
1904-09-16 05:37	Costa croata settentrionale
1904-09-19 23:50	Krasica
1904-09-20 16:02	Praputnjak
1904-09-22 17:38	Sušak
1904-09-24 09:30	Valle Umbra
1904-09-25 03:31	Praputnjak
1904-09-28 10:16	Draga, Krasica

Regarding the month of August 1904, a magnitude 7.5 earthquake struck New Zealand east of the North Island on Tuesday, **August 9, 1904** at 10:51 a.m. A strong earthquake of magnitude 7.9 struck Japan (Kyushu), on Thursday **25 August 1904** at 05:59, while on **26 August** a strong earthquake, rated 5th on the Mercalli scale (Grablovitz), hit the province of Catania (Sicily). Finally, on **August 27, 1904**, a magnitude 7.3 earthquake at 09:56 a.m. (Universal Time) struck central Alaska.

St. Archdeacon reports:

**S. ARCIDIACONO. — Il terremoto di Mineo del
26 Agosto 1904.**

Nel giorno 26 agosto del 1904, a 13^h51^m circa, un esteso terremoto agitò tutta la parte di Nord e di Nord-Est di Val di Noto con il centro superficiale a Mineo, ove l'intensità relativa del movimento del suolo raggiunse il grado V (scossa forte, avvertita generalmente) della scala sismica del prof. Mercalli. Come abbiamo fatto in altre occasioni, (1) così anche in questa procederemo ad un esame sommario del fenomeno per dare un'idea, quanto più è possibile, chiara del modo come si svolsero le cose.


As we have seen before, on **August 11, 1904** there was a New Moon, and on **August 26, 1904** a Full Moon.

Regarding the month of September, we note that on **September 7, 1904** an earthquake of magnitude 4.3 struck the province of Grosseto (Tuscany), on **September 16, 1904** an earthquake of magnitude 5.1, hit the northern Croatian coast and on **September 24, 1904** an earthquake of magnitude about 4.2, hit the Umbrian Valley. In addition, a very strong earthquake of magnitude 6.0, strikes Indonesia on Wednesday, **September 7, 1904** at 07:00 (Jakarta time).

As we have seen before, on **September 9, 1904** there was a New Moon and on **September 24, 1904** a Full Moon. On **September 16, 1904**, there was the Moon in the first quarter.

From 9 August to 24 September 1904 the "tour" of the seismic radians was: New Zealand→Japan→Sicily→Central Alaska→Tuscany→Indonesia→Northern Croatia→Umbria

In 1854 there was an important seismic sequence in February:

1854-02-12 05	Valle Umbra	
1854-02-12 17:50	Cosentino	

February 12, 1854: A magnitude 5.6 earthquake strikes the Umbrian Valley.

PREMONITORY SHOCKS

All times in this article are in GMT, add a time for Italian time.

December 29, 1853: At 11:00 p.m. a strong tremor caused some damage to Perugia and the church of Santa Maria degli Angeli. It was preceded and followed by other lighter shocks.

December 30, 1853: At 5:00 p.m. a slight tremor was felt as far as Urbino.

February 3, 1854: At 2:00 a.m. a strong tremor caused further damage to Perugia and the church of Santa Maria degli Angeli. At 15:00 a brief shock accompanied by a rumble was felt in Bastia. At 7:30 p.m. in Bastia a brief tremor frightened the population without causing damage. Two slight tremors were felt at a short distance as far as Urbino.

February 4, 1854: From 5:00 to 6:00 there were 3 tremors in Bastia.

February 11, 1854: At 4:30 p.m. there was a slight and brief tremor in Assisi which responded violently at 11 p.m. and which was also felt in Perugia and Foligno.

MAIN SHOCK

February 12, 1854: At 1:00 a.m. in Assisi there was a violent shock to which continuous shocks were repeated until 05:00 a.m. At 2:14 a.m. a slight tremor was felt as far as Urbino. At 5:00 there was the main shock of the **magnitude 5.6 sequence**, which was felt as far as Arezzo, Urbino and Rome.

For the magnitude we refer to INGV: ASMI (Italian Macroseismic Historical Archive) and CFTI5Med (Catalogue of strong earthquakes in Italy 461 BC – 1997).

AFTERSHOCKS

February 14, 1854: At 9:00 p.m. a very strong tremor was felt in Bastia.

February 15, 1854: At 3:30 a.m. in Bastia there was a more intense shock than the previous one. At 4:00 a.m. a significant tremor was felt in Perugia. At 7:30 a.m. in Perugia a significant tremor caused panic among the population. At 7:15 a.m. a significant tremor was felt in Bastia. At 1:30 p.m. a more intense shock than the others with a roar was felt in Bastia and Perugia where it caused great panic to the population. It was also felt in Bettona, Assisi and Foligno.

16 and 17 February 1854: Minor tremors were felt in Bastia.

From February 3 to February 17, 1854 there were 8 earthquakes, the main one in the **Umbrian Valley** on **February 12** with a **magnitude of 5.6**. On February 3, 1854 there was also a strong earthquake in Urbino (Marche)

On February 12, 1854, the Cosentino **was also** hit by a very strong earthquake of **magnitude 6.34**. There were replicas (about ten) until February 27th.

On March 1, 1854 a strong earthquake in Cosenza with replicas, of which on **March 15, 1854** a **very strong one**, until March 31, 1854. On March 25, 1854, a strong earthquake struck in Palermo and its surroundings.

Tour of the Seismic Radiants: **Marche→ Umbria→ Calabria-Sicily**

Also in 1897 there was a seismic sequence in the period January-March:

1897-01-07 Ljubljana 4.16

1897-01-14 14:45		
1897-01-16 12:10	Argenta	
1897-01-17 03:57	[Ljubljana]	
1897-01-17 20:30	Ljubljana	
1897-01-19 19:20	Poggiodoro	
1897-01-22 22:02	Ljubljana	
1897-01-24 23	[Central Slovenia]	
1897-01-27 01:35	Prealpi Vicentine	
1897-02-02	Slovenia centrale	
1897-02-11 23:33	Ionio meridionale	
1897-02-12 05:33	[Lower Carniola]	
1897-02-20 06	Tirol, Innsbruck/Hall	
1897-02-20 21:11	[Postojna]	
1897-02-20 21:15	[Ljubljana]	
1897-02-22 14:45	[Central Slovenia]	
1897-02-24 10	[Skofja Loka]	
1897-02-26 18:38	Tirol, Innsbruck/Hall	
1897-03-01 04:13	[Postojna]	
1897-03-01 08:40	Valfabbrica	
1897-03-04 21:05	Langhirano	
1897-03-06 07:10	[Friuli]	
1897-03-09 16:30	[Central Slovenia]	
1897-03-12 04:50	[Friuli]	
1897-03-29	Venafro	

A sequence that began on 07.01.1897 in Ljubljana (Slovenia) with an earthquake of magnitude 4.16 and continued, until 09.03.1897, with a magnitude 3.87 shock in central Slovenia. On 22.01 in Ljubljana, there was a magnitude 4.4 quake, on 24.01 in central Slovenia with a magnitude of 4.9, on 27.01 in the Vicenza Pre-Alps with a magnitude of 4.1, on **02.02 in central Slovenia with a magnitude of 4.6**, on 11.02 in the southern Ionian Sea with a magnitude of 5, on 12.02 in Carniola (Ljubljana) with a magnitude of 3.9, on **20.02 in Innsbruck with a magnitude of 4.63**, on 22.02 in central Slovenia with a magnitude of 3.9, on 24.02 in Skofja Loka with a magnitude of 3.9, on 26.02 in Innsbruck with a magnitude of 4.4, on **1 March** in

Postojna with a magnitude of 3.9 and **in Valfabbrica in Umbria with a magnitude of 4.86**, on 06.03 in Friuli with a magnitude of 3.9, on 09.03 in central Slovenia with a magnitude of 3.87 and on 12.03 in Friuli with a magnitude of 3.9.

14 tremors with a magnitude between 3.9 and 4.6 affect Slovenia. Seismicity also affected the Vicenza Pre-Alps (magnitude 4.1), the southern Ionian Sea (magnitude 5), Umbria (magnitude 4.86) and Friuli (magnitude 3.9)

The maximum seismic maxima occurred on **02.02.1897** and **20.02.1897** in Slovenia and on **01.03.1897** in Umbria. So the seismic sequence prevailed in Slovenia (and Friuli) and also affected central Italy and the southern Ionian Sea.

This is the tour of the "Seismic Radians":

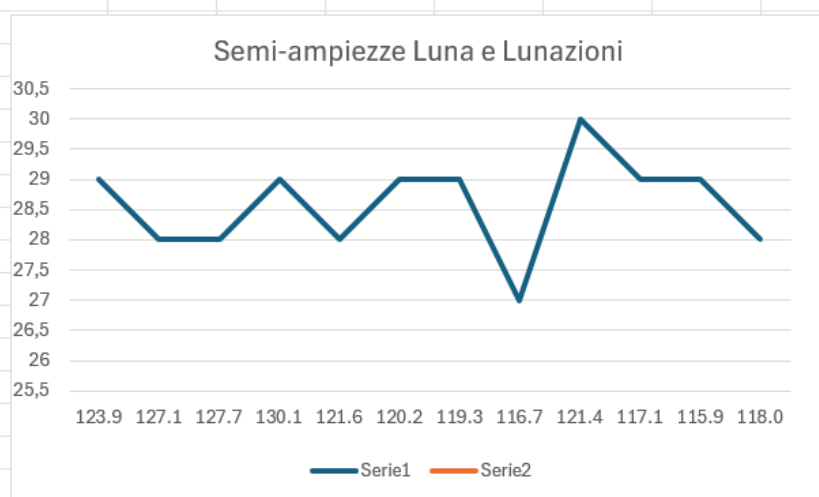
Slovenia-Friuli → Umbria → Cosenza-Vibo Valentia-Reggio Calabria-Messina-Etna-Syracuse-Noto

LUNAZIONE				SOLE		LUNA	
dal		al		Semi- ampiezza	Istante	Semi- ampiezza	Istante
22 dicembre	1889	20 gennaio	1890	36.9	9 ^h 23 ^m 0	123.9	8 ^h 36 ^m 9
21 gennaio	1890	18 febbraio	"	46.7	9 47.2	127.1	8 37.3
19 febbraio	"	19 marzo	"	56.9	9 36.8	127.7	8 41.9
20 marzo	"	18 aprile	"	62.5	9 16.3	130.1	8 44.6
19 aprile	"	17 maggio	"	48.9	9 11.0	121.6	8 45.9
18 maggio	"	16 giugno	"	37.6	9 8.5	120.2	8 53.6
17 giugno	"	16 luglio	"	32.1	9 24.3	119.3	8 47.9
17 luglio	"	13 agosto	"	39.8	9 53.4	116.7	8 44.5
14 agosto	"	13 settembre	"	49.7	9 44.7	121.4	8 49.0
14 settembre	"	13 ottobre	"	58.2	9 33.9	117.1	8 59.6
14 ottobre	"	12 novembre	"	51.3	9 9.2	115.9	8 54.7
13 novembre	"	11 dicembre	"	40.2	8 49.0	118.0	8 36.1
22 dicembre	1889	11 dicembre	1890	46.7	9 ^h 24 ^m 8	121.6	8 ^h 46 ^m 0

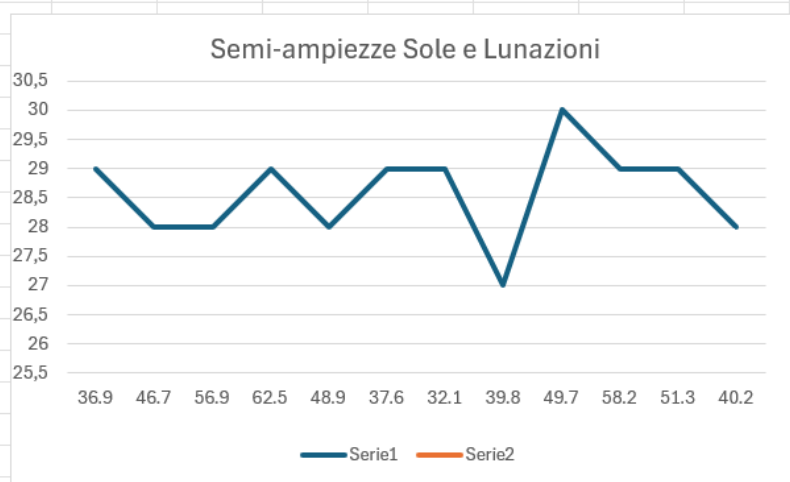
« Il livello del mare ridotto alla pressione atmosferica di 762 dà, per le trattate 12 lunazioni, le seguenti medie espresse in millimetri:

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Media
— 39	— 57	— 78	— 42	— 2	— 27	— 44	— 35	— 33	— 27	+ 3	+ 51	— 275

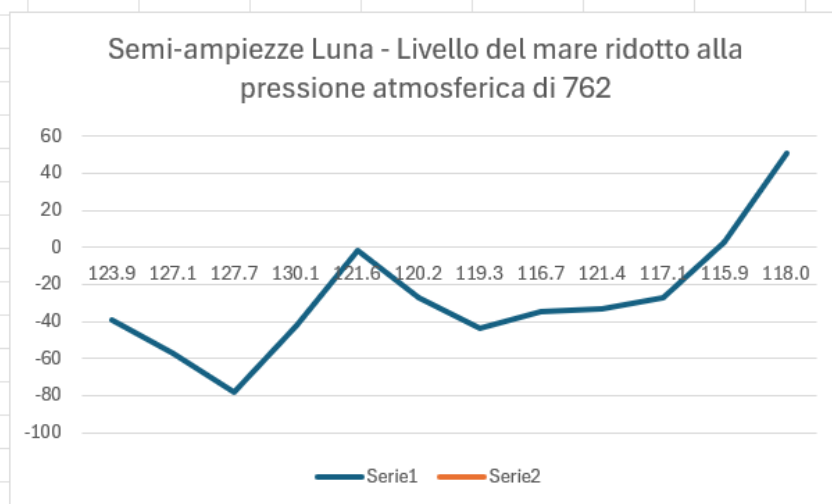
123.9	29
127.1	28
127.7	28
130.1	29
121.6	28
120.2	29
119.3	29
116.7	27
121.4	30
117.1	29
115.9	29
118.0	28



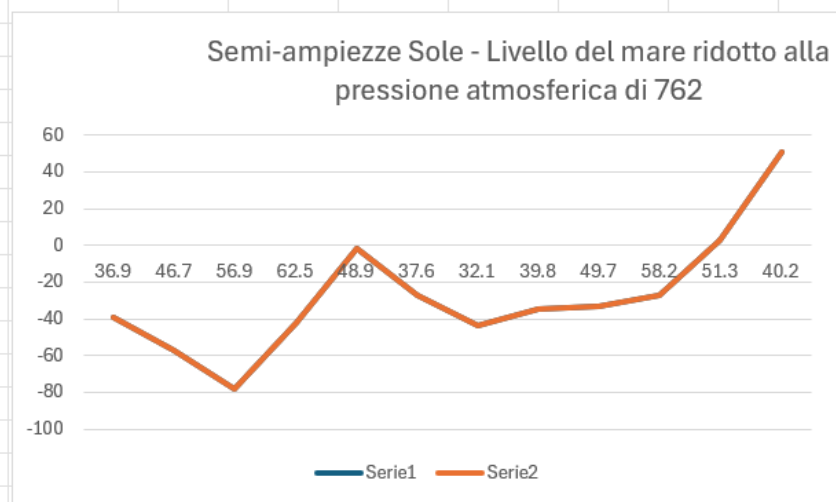
36.9	29
46.7	28
56.9	28
62.5	29
48.9	28
37.6	29
32.1	29
39.8	27
49.7	30
58.2	29
51.3	29
40.2	28



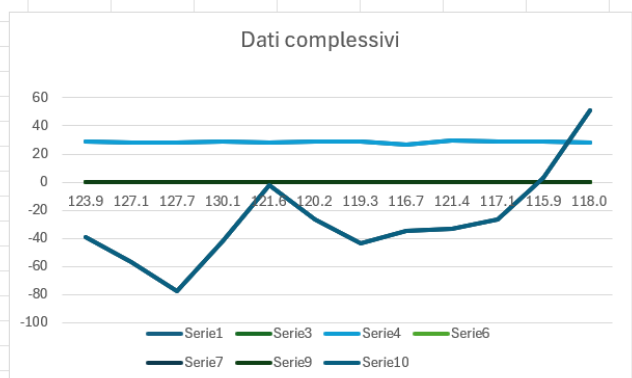
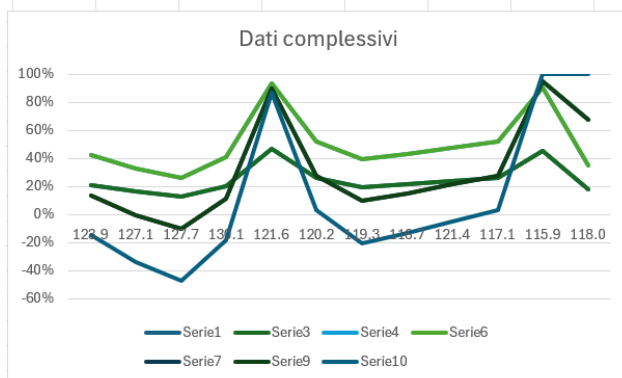
123.9	-39
127.1	-57
127.7	-78
130.1	-42
121.6	-2
120.2	-27
119.3	-44
116.7	-35
121.4	-33
117.1	-27
115.9	3
118.0	51



36.9	-39
46.7	-57
56.9	-78
62.5	-42
48.9	-2
37.6	-27
32.1	-44
39.8	-35
49.7	-33
58.2	-27
51.3	3
40.2	51



123.9	29	36.9	29	123.9	-39	36.9	-39
127.1	28	46.7	28	127.1	-57	46.7	-57
127.7	28	56.9	28	127.7	-78	56.9	-78
130.1	29	62.5	29	130.1	-42	62.5	-42
121.6	28	48.9	28	121.6	-2	48.9	-2
120.2	29	37.6	29	120.2	-27	37.6	-27
119.3	29	32.1	29	119.3	-44	32.1	-44
116.7	27	39.8	27	116.7	-35	39.8	-35
121.4	30	49.7	30	121.4	-33	49.7	-33
117.1	29	58.2	29	117.1	-27	58.2	-27
115.9	29	51.3	29	115.9	3	51.3	3
118.0	28	40.2	28	118.0	51	40.2	51



By performing the following calculation on the previous data, we get:

$$(-\tan(1/15(11\pi-7)))1/2048*\sqrt{((123.9+127.1+127.7+130.1+121.6+120.2+119.3+116.7+121.4+117.1+115.9+118)(36.9+46.7+56.9+62.5+48.9+37.6+32.1+39.8+49.7+58.2+51.3+40.2))}$$

Input

$$-\tan\left(\frac{1}{15}(11\pi-7)\right)\times\frac{1}{2048}\sqrt{((123.9+127.1+127.7+130.1+121.6+120.2+119.3+116.7+121.4+117.1+115.9+118)(36.9+46.7+56.9+62.5+48.9+37.6+32.1+39.8+49.7+58.2+51.3+40.2))}$$

Result

1.61870832704793488992792923593078461691108354269246454307432620;
013639801...

Alternative representation

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2))}$$

$$(-1) \tan\left(\frac{1}{15} (11 \pi - 7)\right) = \frac{\cot\left(\frac{\pi}{2} + \frac{1}{15} (-7 + 11 \pi)\right) \sqrt{818207.}}{2048}$$

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2))}$$

$$(-1) \tan\left(\frac{1}{15} (11 \pi - 7)\right) = -\frac{\sqrt{818207.}}{2048 \cot\left(\frac{1}{15} (-7 + 11 \pi)\right)}$$

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2))}$$

$$(-1) \tan\left(\frac{1}{15} (11 \pi - 7)\right) = \frac{\cot\left(-\frac{\pi}{2} + \frac{1}{15} (-7 + 11 \pi)\right) \sqrt{818207.}}{2048}$$

$\cot(x)$ is the cotangent function

Series representation

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2)) (-1) \tan\left(\frac{1}{15} (11 \pi - 7)\right)} =$$

$$i \sqrt{818206} \cdot \sum_{k_1=0}^{\infty} \sum_{k_2=-\infty}^{\infty} (-1)^{k_2} e^{-13.6149 k_1} e^{2/15 i (-7+11 \pi) k_2} \binom{\frac{1}{2}}{k_1} \text{sgn}(k_2)$$

2048

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2))$$

$$(-1) \tan\left(\frac{1}{15} (11 \pi - 7)\right) = -\frac{1}{2048} i \exp\left(i \pi \left\lfloor \frac{\arg(818207. - x)}{2 \pi} \right\rfloor\right)$$

$$\sqrt{x} \sum_{k_1=0}^{\infty} \sum_{k_2=-\infty}^{\infty} \frac{(-1)^{k_1+k_2} e^{2/15 i (-7+11 \pi) k_2} (818207. - x)^{k_1} x^{-k_1} \left(-\frac{1}{2}\right)_{k_1} \text{sgn}(k_2)}{k_1 !}$$

for $(x \in \mathbb{R} \text{ and } x < 0)$

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2)) (-1) \tan\left(\frac{1}{15} (11 \pi - 7)\right)} =$$

$$i \exp\left(i \pi \left\lfloor \frac{\arg(818207. - x)}{2 \pi} \right\rfloor\right) \sqrt{x} (1 + 2 \sum_{k=1}^{\infty} (-1)^k q^{2^k}) \sum_{k=0}^{\infty} \frac{(-1)^k (818207. - x)^k x^{-k} \left(-\frac{1}{2}\right)_k}{k !}$$

2048

for $(x \in \mathbb{R} \text{ and } x < 0 \text{ and } q = e^{1/15 i (-7+11 \pi)})$

$\binom{n}{m}$ is the binomial coefficient

$\text{sgn}(x)$ is the sign of x

i is the imaginary unit

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

Integral representation

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2))} \\ (-1) \tan\left(\frac{1}{15} (11 \pi - 7)\right) = -\frac{\sqrt{818\,207.}}{2048} \int_0^{\frac{1}{15} (-7+11 \pi)} \sec^2(t) dt$$

$\sec(x)$ is the secant function

Multiple-argument formula

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2))} \\ (-1) \tan\left(\frac{1}{15} (11 \pi - 7)\right) = \frac{\sqrt{818\,207.} \tan\left(\frac{1}{30} (-7 + 11 \pi)\right)}{1024 \left(-1 + \tan^2\left(\frac{1}{30} (-7 + 11 \pi)\right)\right)}$$

- Plain Text

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2))} (-1) \tan\left(\frac{1}{15} (11 \pi - 7)\right) = \\ -\frac{\sqrt{818\,207.} \tan\left(\frac{1}{45} (-7 + 11 \pi)\right) \left(-3 + \tan^2\left(\frac{1}{45} (-7 + 11 \pi)\right)\right)}{2048 \left(-1 + 3 \tan^2\left(\frac{1}{45} (-7 + 11 \pi)\right)\right)}$$

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2)) (-1)}$$

$$\tan\left(\frac{1}{15} (11 \pi - 7)\right) = \frac{\sqrt{818207} \cdot (\tan(-\frac{14}{15} (-7 + 11 \pi)) + \tan(-7 + 11 \pi))}{2048 (-1 + \tan(-\frac{14}{15} (-7 + 11 \pi)) \tan(-7 + 11 \pi))}$$

$$\frac{1}{2048} \sqrt{((123.9 + 127.1 + 127.7 + 130.1 + 121.6 + 120.2 + 119.3 + 116.7 + 121.4 + 117.1 + 115.9 + 118) (36.9 + 46.7 + 56.9 + 62.5 + 48.9 + 37.6 + 32.1 + 39.8 + 49.7 + 58.2 + 51.3 + 40.2)) (-1)}$$

$$\tan\left(\frac{1}{15} (11 \pi - 7)\right) = -\frac{U_{-\frac{14}{15}}(\cos(-7 + 11 \pi)) \sin(-7 + 11 \pi) \sqrt{818207}}{2048 T_{\frac{1}{15}}(\cos(-7 + 11 \pi))}$$

$T_n(x)$ is the Chebyshev polynomial of the first kind

$U_n(x)$ is the Chebyshev polynomial of the second kind

From the following **Ramanujan modular equation**

$$G_{65} = \left\{ \left(\frac{1 + \sqrt{5}}{2} \right) \left(\frac{3 + \sqrt{13}}{2} \right) \right\}^{\frac{1}{4}} \sqrt{\left\{ \sqrt{\left(\frac{9 + \sqrt{65}}{8} \right)} + \sqrt{\left(\frac{1 + \sqrt{65}}{8} \right)} \right\}}.$$

$$(((1+\sqrt{5})/2)((3+\sqrt{13})/2))^{1/4} * \sqrt{((1/8(9+\sqrt{65}))^{1/2} + (1/8(1+\sqrt{65}))^{1/2})}$$

and observing that:

$$\left. \begin{aligned} \pi &= \frac{24}{\sqrt{n}} \log(2^{\frac{1}{4}} G_n) \\ \pi &= \frac{24}{\sqrt{n}} \log(2^{\frac{1}{4}} g_n) \end{aligned} \right\}$$

we obtain

$$24/(\sqrt{65}) * \ln(2^{1/4} * (((1.6187083270479)((3+\sqrt{13})/2))^{1/4} * \sqrt{((1/8(9+\sqrt{65}))^{1/2} + (1/8(1+\sqrt{65}))^{1/2}))))$$

Input interpretation

$$\frac{24}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{1.6187083270479 \left(\frac{1}{2} (3 + \sqrt{13}) \right)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)$$

$\log(x)$ is the natural logarithm

Result

3.14190274826980...

Alternative representation

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) 24 = \frac{1}{\sqrt{65}} 24$$

$$\log_e \left(\sqrt[4]{2} \sqrt[4]{0.809354163523950000 (3 + \sqrt{13})} \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right)$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} \times 1.61870832704790000 (3 + \sqrt{13}) \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8}} (9 + \sqrt{65}) + \sqrt{\frac{1}{8}} (1 + \sqrt{65})} \right) \right) 24 = \frac{1}{\sqrt{65}} 24 \log(a) \\ \log_a \left(\sqrt[4]{2} \sqrt[4]{0.809354163523950000 (3 + \sqrt{13})} \sqrt{\sqrt{\frac{1}{8}} (1 + \sqrt{65}) + \sqrt{\frac{1}{8}} (9 + \sqrt{65})} \right)$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} \times 1.61870832704790000 (3 + \sqrt{13}) \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8}} (9 + \sqrt{65}) + \sqrt{\frac{1}{8}} (1 + \sqrt{65})} \right) \right) 24 = \\ - \frac{1}{\sqrt{65}} 24 \operatorname{Li}_1 \left(1 - \sqrt[4]{2} \sqrt[4]{0.809354163523950000 (3 + \sqrt{13})} \right. \\ \left. \sqrt{\sqrt{\frac{1}{8}} (1 + \sqrt{65}) + \sqrt{\frac{1}{8}} (9 + \sqrt{65})} \right)$$

$\log(x)$ is the natural logarithm

$\log_b(x)$ is the base- b logarithm

$\operatorname{Li}_n(x)$ is the polylogarithm function

Series representation

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} \times 1.61870832704790000 (3 + \sqrt{13}) \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8}} (9 + \sqrt{65}) + \sqrt{\frac{1}{8}} (1 + \sqrt{65})} \right) \right) 24 = \\ \frac{1}{\sqrt{64} \sum_{k=0}^{\infty} 64^{-k} \binom{\frac{1}{2}}{k}} 24 \left(\log \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \right. \right. \\ \left. \left. \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) - \sum_{k=1}^{\infty} \right. \\ \left. \frac{(-1)^k \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-k}}{k} \right)$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} \times 1.61870832704790000 (3 + \sqrt{13}) \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8}} (9 + \sqrt{65}) + \sqrt{\frac{1}{8}} (1 + \sqrt{65})} \right) \right) 24 = \\ \frac{1}{\sqrt{64} \sum_{k=0}^{\infty} 64^{-k} \binom{\frac{1}{2}}{k}} 24 \log \left(1.127955977817112437 \right. \\ \left. \sqrt{\frac{1}{4} (-4 + \sqrt{2} \sqrt{1 + \sqrt{65}} + \sqrt{2} \sqrt{9 + \sqrt{65}})} \sqrt[4]{3 + \sqrt{12} \sum_{k=0}^{\infty} 12^{-k} \binom{\frac{1}{2}}{k}} \right. \\ \left. \sum_{k=0}^{\infty} 4^k \binom{\frac{1}{2}}{k} (-4 + \sqrt{2} \sqrt{1 + \sqrt{65}} + \sqrt{2} \sqrt{9 + \sqrt{65}})^{-k} \right)$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) 24 = \\ \left(24 \left(\log \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \right. \right. \right. \\ \left. \left. \left. \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}}{2 \sqrt{2}}} \right) - \right. \right. \\ \left. \left. \sum_{k=1}^{\infty} \frac{1}{k} (-1)^k \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \right. \right. \right. \\ \left. \left. \left. \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}}{2 \sqrt{2}}} \right)^{-k} \right) \right) \Bigg/ \\ \left(\sqrt{64} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{64}\right)^k \left(-\frac{1}{2}\right)_k}{k!} \right)$$

$\log(x)$ is the natural logarithm

$\binom{n}{m}$ is the binomial coefficient

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

Integral representation

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) 24 = \\ \frac{24}{\sqrt{65}} \int_1^{1.127955977817112437 \sqrt[4]{3 + \sqrt{13}}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}}{2 \sqrt{2}}} \frac{1}{t} dt$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) 24 = \\ \frac{12}{i \pi \sqrt{65}} \int_{-i \infty + \gamma}^{i \infty + \gamma} \frac{1}{\Gamma(1-s)} \Gamma(-s)^2 \Gamma(1+s) \left(-1 + 1.127955977817112437 \right. \\ \left. \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-s} ds \text{ for } -1 < \gamma < 0$$

$\log(x)$ is the natural logarithm

$\Gamma(x)$ is the gamma function

i is the imaginary unit

$$\frac{1}{6} \left(\frac{24}{\sqrt{65}} \ln(2^{1/4} \left(\left(\left(1.6187083270479 \right) \left(\frac{3 + \sqrt{13}}{2} \right) \right)^{1/4} \sqrt{\left(\frac{1}{8} (9 + \sqrt{65}) \right)^{1/2} + \left(\frac{1}{8} (1 + \sqrt{65}) \right)^{1/2}} \right) \right) \right)^2$$

Input interpretation

$$\frac{1}{6} \left(\frac{24}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{1.6187083270479 \left(\frac{1}{2} (3 + \sqrt{13}) \right)} \right. \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2$$

$\log(x)$ is the natural logarithm

Result

1.6452588132642...

Alternative representation

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \right. \\ \left. \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log_e \left(\sqrt[4]{2} \sqrt[4]{0.809354163523950000 (3 + \sqrt{13})} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right) \right)^2$$

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \right. \\ \left. \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log(a) \log_a \left(\sqrt[4]{2} \sqrt[4]{0.809354163523950000 (3 + \sqrt{13})} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right) \right)^2$$

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \right. \\ \left. \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \frac{1}{6} \left(-\frac{1}{\sqrt{65}} 24 \operatorname{Li}_1 \left(1 - \sqrt[4]{2} \sqrt[4]{0.809354163523950000 (3 + \sqrt{13})} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right) \right)^2$$

$\log(x)$ is the natural logarithm

$\log_b(x)$ is the base- b logarithm

$\operatorname{Li}_n(x)$ is the polylogarithm function

Series representation

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\sqrt{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \right. \\ \left. \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \left(96 \left(\log \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \right. \right. \right. \\ \left. \left. \left. \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) - \right. \right. \\ \left. \left. \sum_{k=1}^{\infty} \frac{1}{k} (-1)^k \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \right. \right. \right. \\ \left. \left. \left. \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-k} \right)^2 \right) \right) / \\ \left(\sqrt{64}^2 \left(\sum_{k=0}^{\infty} 64^{-k} \left(\frac{1}{2} \right)^{\binom{2}{k}} \right) \right)$$

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\sqrt{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \right. \\ \left. \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \left(96 \log^2 \left(1.127955977817112437 \sqrt{\frac{1}{4} (-4 + \sqrt{2} \sqrt{1 + \sqrt{65}} + \sqrt{2} \sqrt{9 + \sqrt{65}})} \right. \right. \\ \left. \left. \sqrt[4]{3 + \sqrt{12} \sum_{k=0}^{\infty} 12^{-k} \left(\frac{1}{2} \right)^{\binom{2}{k}}} \right. \right. \\ \left. \left. \sum_{k=0}^{\infty} 4^k \left(\frac{1}{2} \right)^{\binom{2}{k}} (-4 + \sqrt{2} \sqrt{1 + \sqrt{65}} + \sqrt{2} \sqrt{9 + \sqrt{65}})^{-k} \right) \right) \right) / \\ \left(\sqrt{64}^2 \left(\sum_{k=0}^{\infty} 64^{-k} \left(\frac{1}{2} \right)^{\binom{2}{k}} \right) \right)$$

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \right. \\ \left. \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \left(96 \left(\log \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \right. \right. \right. \\ \left. \left. \left. \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) - \right. \right. \\ \left. \left. \sum_{k=1}^{\infty} \frac{1}{k} (-1)^k \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \right. \right. \right. \\ \left. \left. \left. \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-k} \right)^2 \right) \Bigg/ \\ \left(\exp^2 \left(i \pi \left\lfloor \frac{\arg(65 - x)}{2 \pi} \right\rfloor \right) \sqrt{x}^2 \left(\sum_{k=0}^{\infty} \frac{(-1)^k (65 - x)^k x^{-k} \left(-\frac{1}{2} \right)_k}{k!} \right)^2 \right) \\ \text{for} \\ (x \in \\ \mathbb{R} \text{ and } x < 0)$$

$\log(x)$ is the natural logarithm

$\binom{n}{m}$ is the binomial coefficient

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

i is the imaginary unit

\mathbb{R} is the set of real numbers

Integral representation

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\sqrt{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \right. \\ \left. \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \frac{96 \left(\int_1^{1.127955977817112437 \sqrt[4]{3 + \sqrt{13}}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \frac{1}{t} dt \right)^2}{\sqrt{65}^2}$$

- Plain Text

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\sqrt{\frac{1}{2} \times 1.61870832704790000 (3 + \sqrt{13})} \right. \right. \right. \\ \left. \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \frac{24 \left(\int_{i\infty+\gamma}^{i\infty+\gamma} \frac{\Gamma(-s)^2 \Gamma(1+s) \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-s}}{\Gamma(1-s)} ds \right)^2}{i^2 \pi^2 \sqrt{65}^2}$$

for $-1 < \gamma < 0$

$\log(x)$ is the natural logarithm

$\Gamma(x)$ is the gamma function

i is the imaginary unit

From $\frac{\pi^2}{6}$

$$\sqrt{\frac{1}{\frac{\pi^2}{6}} \times \frac{4}{3}}$$

we obtain:

$$\sqrt[4]{\frac{1}{6} \left(\frac{24}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{1.6187083270479} \left(\frac{1}{2} (3 + \sqrt{13}) \right) \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 \times \frac{4}{3}}}$$

Input interpretation

$$\sqrt[4]{\frac{1}{6} \left(\frac{24}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\sqrt[4]{1.6187083270479} \left(\frac{1}{2} (3 + \sqrt{13}) \right) \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 \times \frac{4}{3}}}$$

$\log(x)$ is the natural logarithm

Result

0.900227458123509...

All 2nd roots of 0.81040947635951

$0.90022745812351 e^0 \approx 0.90023$ (real, principal root)

$0.90022745812351 e^{i\pi} \approx -0.90023$ (real root)

Alternative representation

$$\sqrt[4]{\frac{4}{\frac{24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} \cdot 1.61870832704790000 (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)}{\sqrt{65}}}}^2} = \sqrt[4]{\frac{4}{\frac{24 \log_e \left(\sqrt[4]{2} \sqrt[4]{0.809354163523950000} (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right)}{\sqrt{65}}}}^2}$$

$$\sqrt{\frac{4}{\frac{3}{6} \left(\frac{24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} - 1.61870832704790000 (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)}{\sqrt{65}} \right)^2} =$$

$$\sqrt{\frac{4}{\frac{3}{6} \left(\frac{24 \log(a) \log_a \left(\sqrt[4]{2} \sqrt[4]{0.809354163523950000 (3 + \sqrt{13})} \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right)}{\sqrt{65}} \right)^2}$$

$$\sqrt{\frac{4}{\frac{3}{6} \left(\frac{24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} - 1.61870832704790000 (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)}{\sqrt{65}} \right)^2} =$$

$$\sqrt{\frac{4}{\frac{3}{6} \left(-\frac{24 \operatorname{Li}_1 \left(1 - \sqrt[4]{2} \sqrt[4]{0.809354163523950000 (3 + \sqrt{13})} \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right)}{\sqrt{65}} \right)^2}$$

$\log(x)$ is the natural logarithm

$\log_b(x)$ is the base- b logarithm

$\operatorname{Li}_n(x)$ is the polylogarithm function

Series representation

$$\sqrt{\frac{4}{\frac{3}{6} \left(\frac{24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} - 1.61870832704790000 (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)}{\sqrt{65}} \right)^2} =$$

$$\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k \left(-1 + \frac{\sqrt{65}^2}{72 \log^2 \left(1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)} \right)^k}{k!}$$

$$\sqrt{\frac{4}{\frac{3}{6} \left(\frac{24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} - 1.61870832704790000 (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8}} (9 + \sqrt{65})} + \sqrt{\frac{1}{8}} (1 + \sqrt{65}) \right) \right)}{\sqrt{65}} \right)^2} =$$

$$\sqrt{\left| \sqrt{65}^2 / \left(72 \log \left(-1 + 1.127955977817112437 \right. \right. \right.$$

$$\left. \left. \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) - \right.$$

$$\left. \left. \sum_{k=1}^{\infty} \frac{1}{k} (-1)^k \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \right. \right. \right.$$

$$\left. \left. \left. \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-k} \right)^2 \right) \right) \right)$$

$$\sqrt{\frac{4}{\frac{3}{6} \left(\frac{24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} - 1.61870832704790000 (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8}} (9 + \sqrt{65})} + \sqrt{\frac{1}{8}} (1 + \sqrt{65}) \right) \right)}{\sqrt{65}} \right)^2} =$$

$$\exp \left(i \pi \frac{\arg \left(-x + \frac{\sqrt{65}^2}{72 \log^2 \left(1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) \right)}{2 \pi} \right) \sqrt{x}$$

$$\sum_{k=0}^{\infty} \frac{(-1)^k x^{-k} \left(-\frac{1}{2} \right)_k \left(-x + \frac{\sqrt{65}^2}{72 \log^2 \left(1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) \right)^k}{k!}$$

for $(x \in \mathbb{R} \text{ and } x < 0)$

$\log(x)$ is the natural logarithm

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

\mathbb{R} is the set of real numbers

Integral representation

$$\sqrt{\frac{4}{\frac{3}{6} \left(\frac{24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} - 1.61870832704790000 (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8}} (9 + \sqrt{65})} + \sqrt{\frac{1}{8}} (1 + \sqrt{65}) \right) \right)}{\sqrt{65}} \right)^2} =$$

$$\sqrt{72 \left(\int_1^{\frac{1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}}}}{\frac{1}{t}} dt \right)^2}$$

$$\sqrt{\frac{4}{\frac{3}{6} \left(\frac{24 \log \left(\sqrt[4]{2} \left(\sqrt[4]{\frac{1}{2}} - 1.61870832704790000 (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8}} (9 + \sqrt{65})} + \sqrt{\frac{1}{8}} (1 + \sqrt{65}) \right) \right)}{\sqrt{65}} \right)^2} =$$

$$\sqrt{18 \left(\int_{-i\infty+\gamma}^{i\infty+\gamma} \frac{i^2 \pi^2 \sqrt{65}^2}{\Gamma(-s)^2 \Gamma(1+s) \left(-1 + 1.127955977817112437 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-s}} ds \right)^2} \text{ for}$$

$$-1 < \gamma < 0$$

$\log(x)$ is the natural logarithm

$\Gamma(x)$ is the gamma function

i is the imaginary unit

It is interesting to observe how even from geophysical data, through the application of some equations of Number Theory, specifically the modular equations of the Indian genius Srinivasa Ramanujan, results are obtained very close to the golden ratio, to $\zeta(2)$, to π and also to the DN Constant (the Del Gaudio-Nardelli Constant).

Updates

From 1 February to 17 February at 00:19:52 there were 120 seismic events, 12 of which had a magnitude ranging from 2.5 to 3.9

2025-02-17 00:20:48	Md 1.9	Campi Flegrei	2	40.83	14.15
2025-02-17 00:19:52	Md 3.9	Campi Flegrei	2	40.83	14.15
2025-02-16 23:46:47	Md 3.0	Campi Flegrei	2	40.83	14.14
2025-02-16 23:45:12	Md 3.0	Campi Flegrei	2	40.83	14.15
2025-02-16 23:26:29	Md 1.2	Campi Flegrei	2	40.82	14.14
2025-02-16 23:16:51	Md 1.3	Campi Flegrei	1	40.82	14.14
2025-02-16 17:39:55	Md 1.2	Campi Flegrei	2	40.83	14.14
2025-02-16 17:30:41	Md 2.7	Campi Flegrei	3	40.83	14.13
2025-02-16 17:24:42	Md 1.0	Campi Flegrei	2	40.83	14.14
2025-02-16 17:24:14	Md 1.2	Campi Flegrei	3	40.83	14.14
2025-02-16 17:19:43	Md 1.3	Campi Flegrei	2	40.83	14.13
2025-02-16 17:18:55	Md 2.3	Campi Flegrei	3	40.83	14.14
2025-02-16 17:18:00	Md 0.3	Campi Flegrei	3	40.83	14.13
2025-02-16 17:13:04	Md 1.4	Campi Flegrei	3	40.83	14.13
2025-02-16 17:08:05	Md 1.3	Campi Flegrei	1	40.83	14.14
2025-02-16 16:29:32	Md 1.6	Campi Flegrei	2	40.83	14.15
2025-02-16 16:28:14	Md 1.4	Campi Flegrei	2	40.83	14.15
2025-02-16 16:22:21	Md 1.3	Campi Flegrei	2	40.83	14.14
2025-02-16 15:30:02	Md 3.9	Campi Flegrei	3	40.81	14.11
2025-02-16 12:28:03	Md 1.3	Campi Flegrei	3	40.82	14.08
2025-02-16 12:18:46	Md 1.7	Campi Flegrei	3	40.82	14.09
2025-02-16 12:14:31	Md 1.2	Campi Flegrei	3	40.82	14.09
2025-02-16 10:29:08	Md 1.2	Campi Flegrei	1	40.82	14.14
2025-02-16 05:28:49	Md 1.3	Campi Flegrei	3	40.83	14.12
2025-02-16 04:30:10	Md 2.2	Campi Flegrei	2	40.83	14.14
2025-02-16 04:19:54	Md 1.3	Campi Flegrei	2	40.83	14.13
2025-02-16 04:12:17	Md 1.1	Campi Flegrei	3	40.83	14.11
2025-02-16 03:57:51	Md 1.0	Campi Flegrei	1	40.82	14.13
2025-02-16 03:56:48	Md 1.2	Campi Flegrei	3	40.83	14.12
2025-02-16 03:53:09	Md 2.1	Campi Flegrei	3	40.83	14.16

2025-02-16 03:41:38	Md 1.3	Campi Flegrei	3	40.83	14.12
2025-02-16 02:58:23	Md 1.6	Campi Flegrei	3	40.83	14.14
2025-02-16 01:21:10	Md 1.1	Campi Flegrei	2	40.83	14.15
2025-02-15 20:41:38	Md 1.4	Campi Flegrei	2	40.83	14.14
2025-02-15 19:25:47	Md 1.0	Campi Flegrei	1	40.82	14.14
2025-02-15 19:25:39	Md 1.2	Campi Flegrei	2	40.83	14.14
2025-02-15 19:22:14	Md 1.0	Campi Flegrei	3	40.83	14.14
2025-02-15 17:15:59	Md 1.0	Campi Flegrei	2	40.83	14.13
2025-02-15 16:55:57	Md 1.1	Campi Flegrei	1	40.83	14.14
2025-02-15 16:53:49	Md 2.4	Campi Flegrei	3	40.83	14.14
2025-02-15 03:19:10	Md 1.2	Campi Flegrei	2	40.80	14.16
2025-02-15 00:01:36	Md 2.0	Campi Flegrei	3	40.81	14.15
2025-02-14 23:30:56	Md 1.2	Campi Flegrei	3	40.81	14.16
2025-02-14 23:29:21	Md 2.3	Campi Flegrei	4	40.81	14.16
2025-02-14 23:23:26	Md 1.0	Campi Flegrei	3	40.81	14.16
2025-02-14 22:29:44	Md 1.0	Campi Flegrei	3	40.81	14.16
2025-02-14 22:27:56	Md 1.0	Campi Flegrei	3	40.81	14.15
2025-02-14 20:25:48	Md 1.4	Campi Flegrei	2	40.83	14.13
2025-02-14 20:10:11	Md 1.1	Campi Flegrei	1	40.82	14.15
2025-02-14 18:08:56	Md 1.0	Campi Flegrei	1	40.83	14.15
2025-02-14 15:59:09	Md 1.0	Campi Flegrei	2	40.83	14.15
2025-02-13 23:41:06	Md 1.6	Campi Flegrei	2	40.83	14.15
2025-02-13 23:18:28	Md 2.6	Campi Flegrei	2	40.83	14.15
2025-02-13 23:03:00	Md 2.0	Campi Flegrei	2	40.83	14.15
2025-02-13 22:55:38	Md 1.5	Campi Flegrei	1	40.83	14.14
2025-02-13 22:40:43	Md 2.3	Campi Flegrei	2	40.83	14.14
2025-02-13 16:37:08	Md 1.1	Campi Flegrei	2	40.84	14.12
2025-02-13 16:34:22	Md 2.5	Campi Flegrei	2	40.83	14.15
2025-02-13 13:14:26	Md 1.6	Campi Flegrei	2	40.83	14.12
2025-02-13 07:44:47	Md 1.8	Campi Flegrei	2	40.83	14.14

2025-02-13 04:23:52	Md 1.5	Vesuvio	0	40.82	14.43
2025-02-13 03:03:54	Md 1.2	Campi Flegrei	3	40.83	14.14
2025-02-13 02:56:04	Md 1.3	Campi Flegrei	2	40.82	14.15
2025-02-13 02:44:20	Md 1.0	Campi Flegrei	2	40.83	14.13
2025-02-13 02:29:54	Md 1.4	Campi Flegrei	3	40.83	14.14
2025-02-13 02:17:14	Md 1.0	Campi Flegrei	3	40.83	14.14
2025-02-13 01:57:13	Md 1.6	Campi Flegrei	3	40.84	14.14
2025-02-13 01:01:26	Md 1.2	Campi Flegrei	3	40.84	14.14
2025-02-12 23:43:51	Md 1.0	Campi Flegrei	2	40.83	14.14
2025-02-12 23:27:14	Md 2.5	Campi Flegrei	2	40.83	14.15
2025-02-12 22:42:57	Md 2.4	Campi Flegrei	3	40.83	14.13
2025-02-12 17:41:39	Md 1.7	Campi Flegrei	3	40.83	14.13
2025-02-12 13:51:03	Md 1.3	Campi Flegrei	3	40.83	14.11
2025-02-11 22:18:12	Md 1.2	Vesuvio	0	40.83	14.43
2025-02-11 22:09:27	Md 1.7	Campi Flegrei	3	40.84	14.13
2025-02-11 16:55:11	Md 1.6	Campi Flegrei	3	40.84	14.13
2025-02-11 16:55:02	Md 1.2	Campi Flegrei	3	40.84	14.13
2025-02-11 16:54:21	Md 1.0	Campi Flegrei	2	40.83	14.13
2025-02-11 16:53:55	Md 1.8	Campi Flegrei	1	40.83	14.13
2025-02-11 16:50:52	Md 1.2	Campi Flegrei	2	40.83	14.12
2025-02-11 10:34:12	Md 1.9	Campi Flegrei	1	40.82	14.14
2025-02-11 02:50:01	Md 1.7	Campi Flegrei	1	40.83	14.14
2025-02-11 01:53:13	Md 1.0	Campi Flegrei	3	40.84	14.13
2025-02-10 18:52:50	Md 1.6	Campi Flegrei	1	40.83	14.13
2025-02-10 15:50:25	Md 2.3	Campi Flegrei	3	40.84	14.12
2025-02-09 12:04:10	Md 1.5	Campi Flegrei	3	40.84	14.12
2025-02-09 11:50:02	Md 0.7	Campi Flegrei	4	40.83	14.11
2025-02-09 10:03:33	Md 2.5	Vesuvio	1	40.82	14.43
2025-02-09 10:02:19	Md 2.3	Vesuvio	0	40.82	14.44
2025-02-07 21:26:57	Md 1.4	Campi Flegrei	2	40.84	14.12

2025-02-07 21:26:57	Md 1.4	Campi Flegrei	2	40.84	14.12
2025-02-07 18:50:47	Md 0.4	Campi Flegrei	3	40.84	14.11
2025-02-07 16:11:05	Md 2.0	Vesuvio	1	40.82	14.43
2025-02-05 11:00:32	Md 2.7	Campi Flegrei	3	40.83	14.15
2025-02-05 10:43:50	Md 1.1	Campi Flegrei	2	40.83	14.15
2025-02-05 09:33:19	Md 1.0	Campi Flegrei	2	40.83	14.15
2025-02-05 09:24:29	Md 1.0	Campi Flegrei	2	40.83	14.14
2025-02-05 09:10:40	Md 1.9	Campi Flegrei	3	40.83	14.15
2025-02-05 08:57:03	Md 1.1	Campi Flegrei	3	40.83	14.15
2025-02-05 08:52:02	Md 3.1	Campi Flegrei	3	40.83	14.15
2025-02-05 08:41:43	Md 1.7	Campi Flegrei	2	40.83	14.14
2025-02-05 08:41:08	Md 1.8	Campi Flegrei	3	40.83	14.15
2025-02-05 08:38:39	Md 1.0	Campi Flegrei	2	40.83	14.14
2025-02-05 08:37:55	Md 1.9	Campi Flegrei	3	40.83	14.14
2025-02-05 08:37:24	Md 1.8	Campi Flegrei	2	40.83	14.15
2025-02-05 08:35:53	Md 1.4	Campi Flegrei	3	40.83	14.15
2025-02-05 08:35:24	Md 1.6	Campi Flegrei	3	40.83	14.14
2025-02-05 08:32:17	Md 2.6	Campi Flegrei	3	40.83	14.15
2025-02-05 08:30:57	Md 2.1	Campi Flegrei	3	40.83	14.15
2025-02-05 08:26:23	Md 1.2	Campi Flegrei	2	40.83	14.14
2025-02-05 08:25:56	Md 1.3	Campi Flegrei	2	40.83	14.15
2025-02-05 08:23:06	Md 1.4	Campi Flegrei	3	40.83	14.15
2025-02-05 08:21:44	Md 1.4	Campi Flegrei	3	40.83	14.15
2025-02-05 08:17:20	Md 1.0	Campi Flegrei	2	40.83	14.15
2025-02-05 08:11:48	Md 1.1	Campi Flegrei	2	40.83	14.14
2025-02-03 20:06:35	Md 1.4	Campi Flegrei	3	40.80	14.11
2025-02-01 07:53:28	Md 1.1	Campi Flegrei	2	40.83	14.13
2025-02-01 07:20:08	Md 1.0	Campi Flegrei	3	40.84	14.15
2025-02-01 07:18:13	Md 2.2	Campi Flegrei	3	40.83	14.15
2025-02-01 07:16:40	Md 1.2	Campi Flegrei	3	40.84	14.15

We observe the following seismic sequence that occurred in February 2025:

7 February 2025 magnitude 4.7 Aeolian Islands

2 February 2025 magnitude 3.2 province of Siena (Tuscany)

February 2025 Campi Flegrei 01.02 magnitude 2.2

“ 05.02 3.1

Vesuvius 07.02 2.0

“ 09.02 2.5

Campi Flegrei 10.02 2.3

“ 12.02 2.5

“ 13.02 2.6

“ 14.02 2.3

“ 15.02 2.4

“ 16.02 3.9

On February 16, 2025 a seismic event occurred in the Campi Flegrei area (province of Naples) with a magnitude of 3.9. Let's do the following calculations.

From February 1st to February 17th there were 193 seismic events, of which 6 had magnitudes from 3.0 to 3.9

Data e Ora (Italia) 📅 ⓘ	Magnitudo 📉 ⓘ	Zona ⓘ	Profondità 📏	Latitudine	Longitudine
2025-02-17 08:12:10	Md 3.2	Campi Flegrei	3	40.83	14.14
2025-02-17 00:19:52	Md 3.9	Campi Flegrei	2	40.83	14.15
2025-02-16 23:46:47	Md 3.0	Campi Flegrei	2	40.83	14.14
2025-02-16 23:45:12	Md 3.0	Campi Flegrei	2	40.83	14.15
2025-02-16 15:30:02	Md 3.9	Campi Flegrei	3	40.81	14.11
2025-02-05 08:52:02	Md 3.1	Campi Flegrei	3	40.83	14.15

On 16 and 17 February 2025 two seismic events occurred in the Campi Flegrei area (province of Naples) of magnitude 3.9, at 15:30:02 on 16 February and at 00:19:52 on 17 February. Let's do the following calculations.

Jupiter opposition: December 28, 1823 - June 7, 1924.

Calculating the difference between the two dates, we get 36,686 days

From June 7, 1924 (Sun-Earth-Jupiter) to December 22, 1924 (Earth-Sun-Jupiter), 198 days passed. By making a simple average between the two dates, we get 99 days. Therefore:

7 June 1924 + 99 days =

September 14, 1924

Adding to this date 36,686 days, which is about the date between one opposition of Jupiter and another, we finally obtain:

September 14, 1924 + 36,686 days =

February 22, 2025

Now let's also take the date of this further conjunction (Sun-Venus-Earth): July 1, 1924, and make the following calculations:

Average of the days from July 1, 1924 to December 22, 1924 (Earth-Sun-Jupiter):

$$(30+31+30+31+30+22)/2 = 87$$

Adding 87 days to the date June 7, 1924, we get:

June 7, 1924 + 87 days =

September 2, 1924

Proceeding as in the previous calculation, we have:

September 2, 1924 + 36,686 days =

February 10, 2025


The average between the two dates obtained 22 February 2025 and 10 February 2025 is: $(10+22)/2 = 16$; therefore **16 February 2025** , the date on which the seismic maximum of this February 2025 swarm occurred that affected the Phlegraean Area

8 S		▲ 7:06 ▼ 17:30	5:45 ▲ 0,1 m	11:54 ▼ 0,0 m	18:12 ▲ 0,2 m		53 medio	
9 D		▲ 7:05 ▼ 17:31	0:42 ▼ 0,1 m	7:00 ▲ 0,2 m	13:03 ▼ 0,1 m	19:20 ▲ 0,2 m	64 medio	
10 L		▲ 7:03 ▼ 17:32	1:36 ▼ 0,1 m	7:55 ▲ 0,2 m	13:54 ▼ 0,1 m	20:11 ▲ 0,2 m	74 alto	
11 M		▲ 7:02 ▼ 17:34	2:19 ▼ 0,0 m	8:40 ▲ 0,2 m	14:36 ▼ 0,0 m	20:54 ▲ 0,3 m	81 alto	
12 M		▲ 7:01 ▼ 17:35	2:55 ▼ 0,0 m	9:18 ▲ 0,3 m	15:11 ▼ 0,0 m	21:32 ▲ 0,3 m	86 alto	
13 G		▲ 7:00 ▼ 17:36	3:28 ▼ 0,0 m	9:53 ▲ 0,3 m	15:44 ▼ 0,0 m	22:06 ▲ 0,3 m	88 alto	
14 V		▲ 6:58 ▼ 17:37	3:59 ▼ 0,0 m	10:25 ▲ 0,3 m	16:16 ▼ 0,0 m	22:38 ▲ 0,3 m	87 alto	
15 S		▲ 6:57 ▼ 17:38	4:29 ▼ 0,0 m	10:56 ▲ 0,3 m	16:47 ▼ 0,0 m	23:09 ▲ 0,3 m	82 alto	
16 D		▲ 6:56 ▼ 17:40	5:00 ▼ 0,0 m	11:25 ▲ 0,3 m	17:18 ▼ 0,0 m	23:38 ▲ 0,2 m	75 alto	
17 L		▲ 6:54 ▼ 17:41	5:30 ▼ 0,0 m	11:54 ▲ 0,2 m	17:49 ▼ 0,0 m		66 medio	

On February 16th the two high tides in Ischia were 0.3 m at 11.25 am and 0.2 m at 11.38 pm. The seismic events of February 16 occurred at 15:30 (magnitude 3.9) and at 23:45 and 23:46 (magnitude 3.0)

The magnitude 3.9 event at 15:30 occurred about 2 hours after the 11:25 tide, while the magnitude 3.0 events at 23:45 and 23:46 occurred about 7 and 8 minutes after the tide at 23:38

16



Luna Gibbosa
Calante

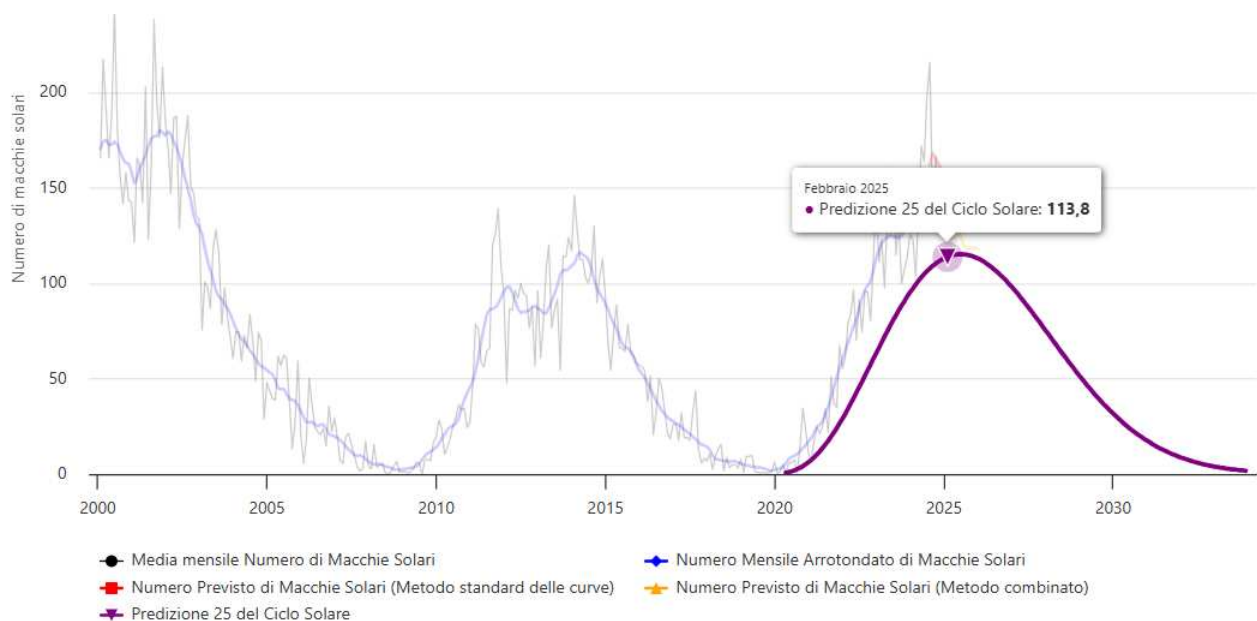
RA: 12h21m - Dec: -3°09'

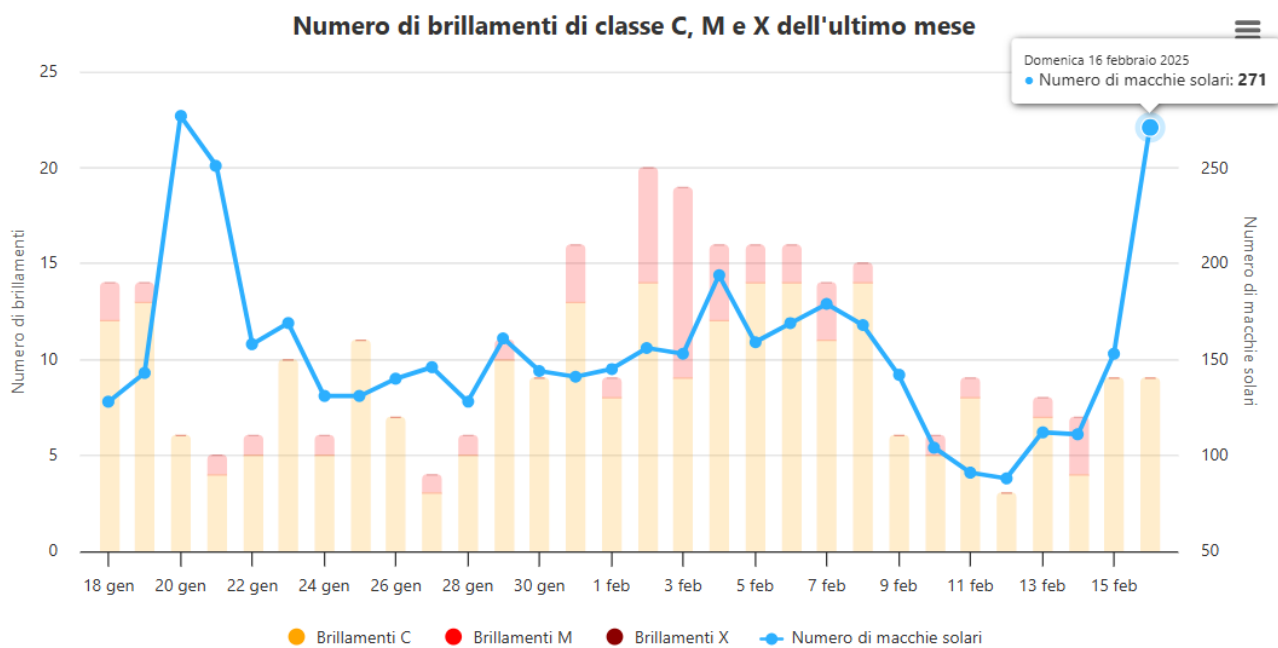
Distanza dalla Terra: 402667km

Illuminata: 89%

Età: 18 giorni

In addition, we observe, with regard to solar activity:





2025-02-15 17:11:51	mb 4.7	Greece [Land]	9	40.36	24.15
2025-02-15 16:53:49	Md 2.4	Campi Flegrei	3	40.83	14.14
2025-02-15 16:06:06	ML 2.0	1 km W Anzi (PZ)	21	40.51	15.91
2025-02-15 14:35:43	ML 3.0	Tirreno Meridionale (MARE)	29	38.72	12.51
2025-02-15 14:24:51	ML 3.7	Tirreno Meridionale (MARE)	29	38.74	12.54
2025-02-15 05:20:50	ML 2.3	Costa Toscana settentrionale (Massa Carrara, Lucca, Pisa)	9	44.04	10.03
2025-02-15 02:48:17	Mwp 5.8	Russia [Land]	52	49.86	88.34
2025-02-15 00:01:36	Md 2.0	Campi Flegrei	3	40.81	14.15
2025-02-14 23:29:21	Md 2.3	Campi Flegrei	4	40.81	14.16
2025-02-14 21:28:26	Mwp 6.2	Ethiopia	15	8.96	39.99
2025-02-14 21:18:56	mb 4.6	Dodecanese Islands, Greece [Sea: Greece]	9	36.58	26.33
2025-02-14 08:50:12	ML 2.2	3 km E San Giuseppe Vesuviano (NA)	18	40.83	14.54
2025-02-14 06:40:11	ML 2.5	1 km NW Striano (NA)	15	40.82	14.57
2025-02-14 05:11:08	ML 2.6	Costa Siciliana nord orientale (Messina)	7	38.38	14.44
2025-02-14 00:59:30	Mwp 5.9	United States [Sea]	9	55.88	-154.98
2025-02-13 23:18:28	Md 2.6	Campi Flegrei	2	40.83	14.15
2025-02-13 23:03:00	Md 2.0	Campi Flegrei	2	40.83	14.15
2025-02-13 22:40:43	Md 2.3	Campi Flegrei	2	40.83	14.14
2025-02-13 20:55:35	ML 2.0	5 km NE Cittareale (RI)	10	42.65	13.21
2025-02-13 18:47:19	ML 2.2	Mar Ionio Meridionale (MARE)	29	37.45	16.34
2025-02-13 16:42:41	mb 4.7	Southern Greece [Sea: Greece]	84	36.47	24.01
2025-02-13 16:34:22	Md 2.5	Campi Flegrei	2	40.83	14.15
2025-02-13 15:49:45	ML 2.4	Stretto di Messina (Reggio di Calabria, Messina)	38	37.89	15.38
2025-02-13 12:54:35	ML 2.0	5 km E Berchidda (OT)	10	40.80	9.23

Data e Ora (Italia) ⓘ ⓘ	Magnitudo ⓘ ⓘ	Zona ⓘ	Profondità ⓘ ⓘ	Latitudine	Longitudine
2025-02-17 16:49:17	mb 4.6	Southern Greece [Sea: Greece]	32	36.15	24.41
2025-02-17 15:05:40	mb 4.6	Dodecanese Islands, Greece [Sea: Greece]	9	36.59	25.68
2025-02-17 12:26:32	Md 2.8	Campi Flegrei	2	40.83	14.12
2025-02-17 12:26:22	Md 2.3	Campi Flegrei	3	40.83	14.12
2025-02-17 09:39:38	Md 2.4	Campi Flegrei	1	40.82	14.14
2025-02-17 08:58:51	ML 2.1	Isole Eolie (Messina)	11	38.46	14.41
2025-02-17 08:49:51	mb 5.0	Dodecanese Islands, Greece [Sea: Greece]	9	36.52	25.68
2025-02-17 08:46:25	mb 4.6	Dodecanese Islands, Greece [Sea: Greece]	9	36.50	25.57
2025-02-17 08:14:19	Md 2.7	Campi Flegrei	2	40.83	14.15
2025-02-17 08:14:11	Md 2.8	Campi Flegrei	2	40.82	14.14
2025-02-17 08:12:10	Md 3.2	Campi Flegrei	3	40.83	14.14
2025-02-17 05:04:21	Md 2.4	Campi Flegrei	0	40.82	14.14
2025-02-17 03:14:37	Md 2.0	Campi Flegrei	2	40.83	14.15
2025-02-17 01:39:03	Md 2.3	Campi Flegrei	2	40.83	14.14
2025-02-17 00:21:43	Md 2.0	Campi Flegrei	1	40.83	14.15
2025-02-17 00:20:48	Md 2.5	Campi Flegrei	2	40.83	14.15
2025-02-17 00:19:52	Md 3.9	Campi Flegrei	2	40.83	14.15
2025-02-17 00:05:27	ML 3.4	Costa Croata Settentrionale (CROAZIA)	8	44.31	15.55
2025-02-16 23:46:47	Md 3.0	Campi Flegrei	2	40.83	14.14
2025-02-16 23:45:12	Md 3.0	Campi Flegrei	2	40.83	14.15
2025-02-16 17:30:41	Md 2.7	Campi Flegrei	3	40.83	14.13
2025-02-16 17:18:55	Md 2.3	Campi Flegrei	3	40.83	14.14
2025-02-16 16:23:43	ML 2.2	3 km NE Alseno (PC)	24	44.92	9.99
2025-02-16 15:30:02	Md 3.9	Campi Flegrei	3	40.81	14.11
2025-02-16 13:50:21	ML 2.1	Costa Calabria sud orientale (Reggio di Calabria)	7	38.08	16.43
2025-02-16 05:31:20	ML 2.0	Costa Marchigiana Pesarese (Pesaro Urbino)	39	44.13	13.00
2025-02-16 04:30:10	Md 2.2	Campi Flegrei	2	40.83	14.14
2025-02-16 03:53:09	Md 2.1	Campi Flegrei	3	40.83	14.16
2025-02-16 00:45:57	ML 2.0	2 km SW Lama Mocogno (MO)	25	44.30	10.72
2025-02-15 22:37:39	ML 2.0	1 km SE Adrano (CT)	2	37.65	14.84

On the February 2025 seismic sequence that affected the Campi Flegrei: further evidence in support of Michele Nardelli's statistical-mathematical model, deriving from Professor Giulio Grablovitz's "Seismic Theory of the Tides".

From 1 February at 07:14:18 to 17 February at 11:41:54 there were 193 seismic events in the Phlegraean area, of which 6 with magnitude between 3.0 and 3.9.

During the seismic maximum on February 16 and 17, 2025, we recorded two magnitude 3.9 events: at 15:30:02 on February 16 and at 00:19:52 on February 17.

To better understand these events, the mathematician Michele Nardelli has made some calculations:

The oppositions of Jupiter, from December 28, 1823 to June 7, 1924, cover a period of 36,686 days. From June 7, 1924 (Sun-Earth-Jupiter) to December 22, 1924 (Earth-Sun-Jupiter) 198 days passed. Averaging between these dates, we get 99 days. Adding 99 days to June 7, 1924, we get September 14, 1924. Adding the 36,686 days to this date, we get February 22, 2025.

Consider also the Sun-Venus-Earth conjunction of July 1, 1924. The average number of days from July 1, 1924 to December 22, 1924 is 87 days. Adding 87 days to June 7, 1924, we get September 2, 1924. Adding 36,686 days to September 2, 1924, we get February 10, 2025.

The average between the dates obtained, 22 February 2025 and 10 February 2025, is 16 February 2025, the date on which the maximum seismic of the recent swarm occurred in the Phlegraean area.

Finally, the high tides in Ischia on February 16 were 0.3 m at 11:25 am and 0.2 m at 11:38 pm. The seismic events of February 16 occurred at 15:30 (magnitude 3.9) and at 23:45 and 23:46 (magnitude 3.0). The 15:30 event occurred approximately 2 hours after the 11:25 tide, while the 23:45 and 23:46 events occurred approximately 7 and 8 minutes after the 23:38 tide.

In 2025, there was a Full Moon on February 12.

From 12 February 2025 to date, the following round of seismic radians has occurred: **America-Ethiopia-Central and Southern Italy-Croatia-Greece.**

Seismic events of 1854

In February 1854, a significant seismic sequence occurred. On February 12, 1854, a magnitude 5.6 earthquake struck the Umbrian Valley.

Foreshadowing shocks:

- **December 29, 1853:** At 11:00 p.m., a strong tremor caused damage to Perugia and the church of Santa Maria degli Angeli, followed by light tremors. (New Moon)
- **December 30, 1853:** At 5:00 p.m., a slight tremor was felt as far as Urbino.
- **February 3, 1854:** At 2:00 a.m., a strong tremor caused further damage to Perugia and the church of Santa Maria degli Angeli. Other tremors were felt in Bastia and Urbino.
- **February 4, 1854:** Between 5:00 and 6:00 there were 3 tremors in Bastia.
- **February 11, 1854:** At 4:30 p.m., a slight tremor in Assisi responded violently at 11 p.m., also felt in Perugia and Foligno.

Led Shock:

- **February 12, 1854:** At 1:00 a.m., a violent tremor struck Assisi with continuous repetitions until 5:00 a.m. The main shock, of magnitude 5.6, occurred at 5:00 am, felt as far as Arezzo, Urbino and Rome. (Full Moon)

Aftershocks:

- **February 14, 1854:** At 9:00 p.m., a very strong tremor was felt in Bastia.
- **February 15, 1854:** Several intense tremors were felt in Bastia, Perugia and other Umbrian localities.
- **16 and 17 February 1854:** Minor tremors were felt in Bastia.

From 3 February to 17 February 1854 there were 8 earthquakes, the main one of magnitude 5.6 in the Umbrian Valley on 12 February. In addition, on February 12, 1854, the Cosentino was also hit by a very strong earthquake of magnitude 6.34, with replicas until February 27.

Tour of the Seismic Radians 1854

- Marche → Umbria → Calabria-Sicily
- December 30, 1853 there was a new moon and on February 13, 1854 there was a full moon, so tides of syzygies.

Seismic events of 1897

Also in 1897 there was a seismic sequence in the period January-March. The sequence began on 7 January 1897 in Ljubljana (Slovenia) with a magnitude 4.16 quake and continued until 9 March 1897 with a magnitude 3.87 quake in central Slovenia.

Main seismic events and luni-solar phenomena of the sequence:

- **January 18, 1897: Full moon.**
- **January 22, 1897:** Ljubljana, magnitude 4.4
- **January 24, 1897:** Central Slovenia, magnitude 3.9
- **27 January 1897:** Vicenza Prealps, magnitude 4.1
- **2 February 1897:** Central Slovenia, magnitude 4.6
- **11 February 1897:** Southern Ionian, magnitude 5
- **12 February 1897:** Carniola (Ljubljana), magnitude 3.9
- **February 17, 1897: Full moon.**
- **February 20, 1897:** Innsbruck, magnitude 4.63
- **22 February 1897:** Central Slovenia, magnitude 3.9
- **24 febbraio 1897:** Skofja Loka, magnitudo 3.9
- **February 26, 1897:** Innsbruck, magnitude 4.4
- **1 March 1897:** Postojna, magnitude 3.9; Valfabbrica (Umbria), magnitude 4.86
- **March 3, 1897: New Moon.**
- **6 March 1897:** Friuli, magnitude 3.9
- **9 March 1897:** Central Slovenia, magnitude 3.87

- **12 March 1897:** Friuli, magnitude 3.9

Seismicity mainly affected Slovenia, but also involved the Vicenza Pre-Alps, the southern Ionian Sea, Umbria and Friuli.

Tour of the Seismic Radians 1897

- Slovenia-Friuli → Umbria → Calabria-Sicily

Let's compare the three seismic radians of the three sequences

Seismic radians 1854

- **Marche → Umbria → Calabria-Sicily**
- **New Moon:** December 30, 1853
- **Full Moon:** February 13, 1854 (tides of syzygies)

Seismic radians 1897

- **Slovenia-Friuli → Umbria → Calabria-Sicily**
- **Full Moon:** January 18, 1897
- **Full Moon:** February 17, 1897
- **New Moon:** March 3, 1897

Seismic radians 2025

- **America-Ethiopia-Central and Southern Italy-Croatia-Greece**
- **Full Moon:** February 12, 2025

According to mathematician Michele Nardelli, from this comparison we can see that the seismic radians of the three sequences **were similar for some areas involved, such as central-southern Italy**, but each sequence also had unique characteristics. The phases of the moon, in particular the tides of syzygies, seem to have a correlation with seismic events in each of the sequences. The recurrence, in all three sequences, of the seismic radiant of central-southern Italy, supports the thesis that it is a sort of "fulcrum" of a lever of the first kind that has its arms in the other seismic radians scattered in the various tectonic plates.

The mathematician Michele Nardelli has derived a further periodicity:

On December 17, 1882, an opposition of Jupiter (Sun-Earth-Jupiter) occurred

December 14, 1882 1:45 PM earthquake in St. Niklaus (Switzerland) with magnitude 3.9

Dec 17, 1882 + 70 years 11 months 26.42 days

= 13 December 1953

We note how on December 13, 1953 there was opposition of Jupiter (Sun-Earth-Jupiter)

14 December 1953 earthquake in the Forlì Apennines of magnitude 4.7

December 13, 1953 + 70 years 11 months 26.42 days

= 9 December 1924

9 December 2024 magnitude 4.1 earthquake in Slovenia, 50 km east of the Italian border

9.12.2024 Magnitude 5.7 earthquake in El Salvador

9.12.2024 magnitude 3.6 earthquake in Roccamonfina (Campania)

13.12.2024 magnitude 4.5 earthquake in Greece

14.12.2024 Magnitude 6.3 earthquake in Chile

16.12.2024 magnitude 5.5 earthquake in Indonesia

21.12.2024 magnitude 6.0 earthquake in Vanuatu Islands and 5.0 in Greece

23.12.2024 magnitude 5.9 earthquake in Cuba and 4.0 in the southern Tyrrhenian Sea

The moon phases for December 2024 were:

DICEMBRE

Domenica	1	Dicembre	2024	06:21:24	●	Luna Nuova	♐	Sagittario	09°32'55	396 279.68 km
Domenica	8	Dicembre	2024	15:26:36	◐	Primo quarto	♏	Pesci	17°02'17	372 379.47 km
Domenica	15	Dicembre	2024	09:01:40	◑	Luna Piena	♊	Gemelli	23°52'51	370 401.97 km
Domenica	22	Dicembre	2024	22:18:10	◓	Ultimo quarto	♎	Bilancia	01°34'06	403 205.47 km
Lunedì	30	Dicembre	2024	22:26:47	●	Luna Nuova	♑	Capricorno	09°43'41	385 604.32 km

December 1 New Moon; December 15 Full Moon and December 30 New Moon (Tides of Syzygies)

December 8 Moon first quarter; 22 December Moon last quarter (square tides); December 12 Moon at perigee; December 22, 2024 Moon passage to descending node

The tremors of December 9 are connected with the Moon in the first quarter of December 8 and with the Moon at perigee on December 12. The tremors of 13, 14 and 16 are connected with the full moon of 15 December; those of the 21st and 23rd are connected with the Moon at the last quarter and with the passage to the descending node of December 22nd

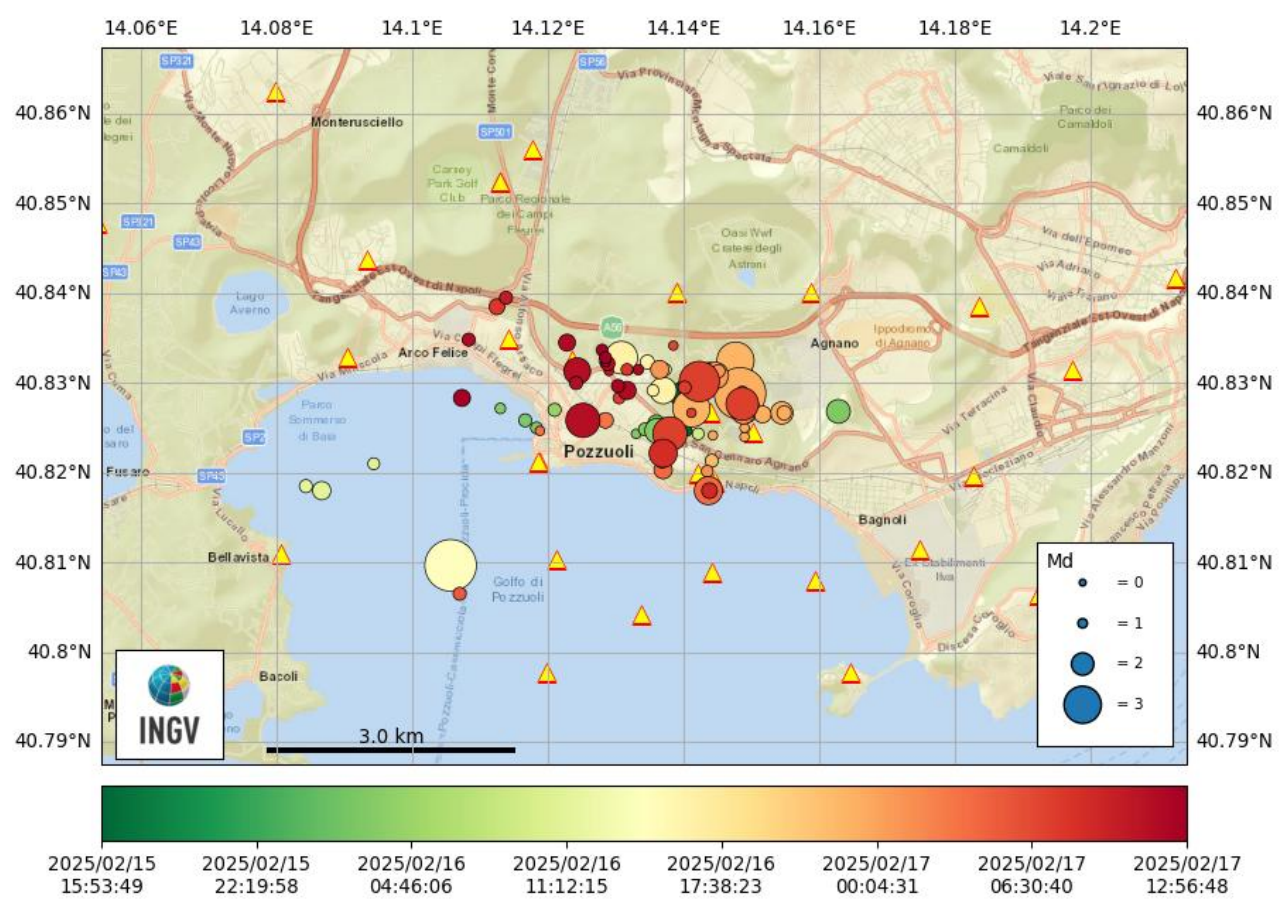
On December 21st, with a magnitude 5 event, the reactivation of the Greek Seismic Radiant begins, which, in February, will have its main sequence with a seismic maximum of **magnitude 5.4 on February 4th and 5th, magnitude 5.5 on February 9th and 5.4 on February 10th and 12th, 2025**

On **February 2nd** there was the Moon at perigee and on **February 12th** there was a full Moon

Seismic swarm at the Campi Flegrei: update press release no. 9 of 17 February 2025, 14:08 (INGV)

[February 17, 2025](#)

Since 16:53 on 15.02.2025 a seismic swarm has been underway in the Campi Flegrei area. At 14:08 on 17 February, 282 earthquakes with a magnitude greater than or equal to 0.0 and a maximum magnitude equal to 3.9 ± 0.3 were preliminarily detected.



The map shows the locations of events with magnitude greater than or equal to 1.0. (Swarm update at 14:08 on 17 February 2025).

The list of events located so far with magnitude greater than or equal to 3.0 (14:08 on 17 February 2025) is shown below:

Data e Ora italiana	Magnitudo	Zona	Profondità
2025-02-17 08:12:10	Md 3.2 ± 0.3	Campi Flegrei	2.5 km
2025-02-17 00:19:52	Md 3.9 ± 0.3	Campi Flegrei	1.6 km
2025-02-16 23:46:47	Md 3.0 ± 0.3	Campi Flegrei	2.3 km
2025-02-16 23:45:12	Md 3.0 ± 0.3	Campi Flegrei	2.5 km
2025-02-16 15:30:02	Md 3.9 ± 0.3	Campi Flegrei	2.5 km

As can be seen from the map, the two magnitude 3.9 events occurred in two different seismogenic zones where we currently record seismicity: yesterday afternoon in the Gulf of Pozzuoli and tonight in the Solfatara-Pisciarelli area.

We are going through a phase of intensification of bradyseism, a phenomenon that has already occurred in the past. For example, on May 20, 2024, there was a bradyseismic swarm of shorter duration than the current one, but characterized by events of magnitude 4.4, 3.8 and 3.6. Therefore, **the presence of multiple magnitude 3.0 events in particularly energetic swarms is not an anomaly.**

Multi-parameter monitoring indicates that, at the moment, **all parameters other than seismicity do not show significant anomalies, but maintain the usual upward trends. The ground uplift proceeds at an average of about 10 millimeters per month. The flow in the main fumaroles has returned to the values recorded two weeks ago, after a slight temporary drop. Even the concentrations of gases emitted by fumaroles do not show significant variations compared to the usual anomalies.**

Note by mathematician Michele Nardelli:

From what can be seen, although there is the phenomenon of seismicity that accompanies and will accompany the phase of ascending bradyseism and the current intensification of the same, there is no danger of eruption at the moment. With regard to seismicity, a prevention policy is recommended by implementing as soon as possible the verification of buildings for each use intended for them

2025-02-17 01:59:46	Md 1.3	Campi Flegrei	2	40.83	14.14
2025-02-17 01:39:03	Md 2.3	Campi Flegrei	2	40.83	14.14
2025-02-17 01:03:51	Md 1.0	Campi Flegrei	1	40.82	14.14
2025-02-17 00:38:10	Md 1.1	Campi Flegrei	2	40.83	14.15
2025-02-17 00:36:21	Md 1.2	Campi Flegrei	0	40.83	14.15
2025-02-17 00:33:21	Md 1.0	Campi Flegrei	1	40.83	14.15
2025-02-17 00:32:19	Md 1.4	Campi Flegrei	1	40.83	14.15
2025-02-17 00:31:52	Md 1.0	Campi Flegrei	1	40.82	14.15
2025-02-17 00:21:57	Md 1.6	Campi Flegrei	2	40.83	14.15
2025-02-17 00:21:43	Md 2.0	Campi Flegrei	1	40.83	14.15
2025-02-17 00:20:48	Md 2.5	Campi Flegrei	2	40.83	14.15
2025-02-17 00:19:52	Md 3.9	Campi Flegrei	2	40.83	14.15
2025-02-16 23:46:47	Md 3.0	Campi Flegrei	2	40.83	14.14
2025-02-16 23:45:12	Md 3.0	Campi Flegrei	2	40.83	14.15
2025-02-16 23:26:29	Md 1.2	Campi Flegrei	2	40.82	14.14
2025-02-16 23:16:51	Md 1.3	Campi Flegrei	1	40.82	14.14
2025-02-16 17:39:55	Md 1.2	Campi Flegrei	2	40.83	14.14
2025-02-16 17:30:41	Md 2.7	Campi Flegrei	3	40.83	14.13
2025-02-16 17:24:42	Md 1.0	Campi Flegrei	2	40.83	14.14
2025-02-16 17:24:14	Md 1.2	Campi Flegrei	3	40.83	14.14
2025-02-16 17:19:43	Md 1.3	Campi Flegrei	2	40.83	14.13
2025-02-16 17:18:55	Md 2.3	Campi Flegrei	3	40.83	14.14
2025-02-16 17:18:00	Md 0.3	Campi Flegrei	3	40.83	14.13
2025-02-16 17:13:04	Md 1.4	Campi Flegrei	3	40.83	14.13
2025-02-16 17:08:05	Md 1.3	Campi Flegrei	1	40.83	14.14
2025-02-16 16:29:32	Md 1.6	Campi Flegrei	2	40.83	14.15
2025-02-16 16:28:14	Md 1.4	Campi Flegrei	2	40.83	14.15
2025-02-16 16:22:21	Md 1.3	Campi Flegrei	2	40.83	14.14
2025-02-16 15:30:02	Md 3.9	Campi Flegrei	3	40.81	14.11
2025-02-16 12:28:03	Md 1.3	Campi Flegrei	3	40.82	14.08

2025-02-16 12:18:46	Md 1.7	Campi Flegrei	3	40.82	14.09
2025-02-16 12:14:31	Md 1.2	Campi Flegrei	3	40.82	14.09
2025-02-16 10:29:08	Md 1.2	Campi Flegrei	1	40.82	14.14
2025-02-16 05:28:49	Md 1.3	Campi Flegrei	3	40.83	14.12
2025-02-16 04:30:10	Md 2.2	Campi Flegrei	2	40.83	14.14
2025-02-16 04:19:54	Md 1.3	Campi Flegrei	2	40.83	14.13
2025-02-16 04:12:17	Md 1.1	Campi Flegrei	3	40.83	14.11
2025-02-16 03:57:51	Md 1.0	Campi Flegrei	1	40.82	14.13
2025-02-16 03:56:48	Md 1.2	Campi Flegrei	3	40.83	14.12
2025-02-16 03:53:09	Md 2.1	Campi Flegrei	3	40.83	14.16
2025-02-16 03:41:38	Md 1.3	Campi Flegrei	3	40.83	14.12
2025-02-16 02:58:23	Md 1.6	Campi Flegrei	3	40.83	14.14
2025-02-16 01:21:10	Md 1.1	Campi Flegrei	2	40.83	14.15

2025-02-17 12:50:23	Md 1.3	Campi Flegrei	3	40.84	14.11
2025-02-17 12:47:04	Md 1.7	Campi Flegrei	3	40.83	14.13
2025-02-17 12:40:50	Md 1.4	Campi Flegrei	3	40.83	14.13
2025-02-17 12:33:06	Md 2.2	Campi Flegrei	3	40.84	14.11
2025-02-17 12:30:45	Md 1.3	Campi Flegrei	2	40.83	14.12
2025-02-17 12:26:32	Md 2.8	Campi Flegrei	2	40.83	14.12
2025-02-17 12:26:22	Md 2.3	Campi Flegrei	3	40.83	14.12
2025-02-17 11:41:54	Md 1.0	Campi Flegrei	2	40.83	14.13
2025-02-17 11:11:24	Md 1.3	Campi Flegrei	2	40.84	14.11
2025-02-17 10:01:55	Md 1.5	Campi Flegrei	1	40.82	14.14
2025-02-17 09:39:38	Md 2.4	Campi Flegrei	1	40.82	14.14
2025-02-17 08:45:15	Md 1.2	Campi Flegrei	3	40.83	14.13
2025-02-17 08:42:02	Md 1.5	Campi Flegrei	3	40.84	14.11
2025-02-17 08:23:47	Md 1.3	Campi Flegrei	2	40.83	14.14
2025-02-17 08:14:48	Md 1.0	Campi Flegrei	1	40.83	14.14
2025-02-17 08:14:19	Md 2.7	Campi Flegrei	2	40.83	14.15
2025-02-17 08:14:11	Md 2.8	Campi Flegrei	2	40.82	14.14
2025-02-17 08:12:29	Md 1.2	Campi Flegrei	2	40.83	14.13
2025-02-17 08:12:10	Md 3.2	Campi Flegrei	3	40.83	14.14
2025-02-17 07:47:06	Md 1.0	Campi Flegrei	3	40.83	14.14
2025-02-17 07:45:26	Md 1.3	Campi Flegrei	3	40.83	14.14
2025-02-17 06:02:28	Md 1.3	Campi Flegrei	3	40.81	14.11
2025-02-17 05:19:34	Md 1.2	Campi Flegrei	1	40.82	14.14
2025-02-17 05:18:41	Md 1.7	Campi Flegrei	1	40.82	14.14
2025-02-17 05:04:21	Md 2.4	Campi Flegrei	0	40.82	14.14
2025-02-17 04:25:30	Md 1.0	Campi Flegrei	3	40.83	14.12
2025-02-17 04:20:59	Md 1.5	Campi Flegrei	3	40.83	14.13
2025-02-17 03:14:37	Md 2.0	Campi Flegrei	2	40.83	14.15
2025-02-17 02:23:43	Md 1.2	Campi Flegrei	1	40.82	14.14
2025-02-17 02:04:26	Md 1.7	Campi Flegrei	2	40.83	14.14

2025-02-17 19:37:11	Md 0.8	Campi Flegrei	1	40.83	14.14
2025-02-17 19:30:35	Md 1.0	Campi Flegrei	2	40.83	14.15
2025-02-17 19:14:49	Md 1.0	Campi Flegrei	2	40.83	14.14
2025-02-17 19:03:55	Md 1.8	Campi Flegrei	2	40.83	14.15
2025-02-17 19:03:55	Md 1.6	Campi Flegrei	2	40.83	14.15
2025-02-17 18:59:49	Md 1.2	Campi Flegrei	2	40.83	14.15
2025-02-17 18:57:31	Md 1.0	Campi Flegrei	2	40.82	14.14
2025-02-17 18:56:12	Md 1.0	Campi Flegrei	2	40.83	14.14
2025-02-17 18:55:35	Md 2.6	Campi Flegrei	2	40.83	14.14
2025-02-17 18:53:21	Md 1.1	Campi Flegrei	2	40.83	14.15
2025-02-17 18:49:02	Md 1.1	Campi Flegrei	2	40.83	14.15
2025-02-17 18:46:32	Md 0.9	Campi Flegrei	1	40.82	14.14
2025-02-17 18:41:40	Md 1.6	Campi Flegrei	2	40.83	14.14
2025-02-17 18:22:59	Md 1.2	Campi Flegrei	2	40.83	14.15
2025-02-17 18:22:59	Md 1.0	Campi Flegrei	2	40.83	14.15
2025-02-17 18:15:54	Md 2.6	Campi Flegrei	3	40.83	14.15
2025-02-17 18:14:31	Md 1.2	Campi Flegrei	1	40.83	14.15
2025-02-17 17:56:10	Md 1.3	Campi Flegrei	2	40.83	14.14
2025-02-17 17:53:24	Md 2.7	Campi Flegrei	2	40.83	14.14
2025-02-17 17:53:05	Md 1.2	Campi Flegrei	2	40.83	14.14
2025-02-17 16:48:50	Md 1.0	Campi Flegrei	2	40.83	14.12
2025-02-17 16:42:17	Md 1.6	Campi Flegrei	3	40.83	14.13
2025-02-17 13:56:48	Md 1.2	Campi Flegrei	3	40.83	14.13
2025-02-17 13:51:29	Md 1.2	Campi Flegrei	3	40.83	14.13
2025-02-17 13:43:11	Md 1.6	Campi Flegrei	2	40.83	14.11
2025-02-17 13:32:25	Md 1.0	Vesuvio	1	40.82	14.43
2025-02-17 13:18:22	Md 1.3	Campi Flegrei	2	40.83	14.13
2025-02-17 13:03:36	Md 1.0	Campi Flegrei	3	40.83	14.13
2025-02-17 12:55:17	Md 1.6	Campi Flegrei	2	40.83	14.12
2025-02-17 12:54:09	Md 1.1	Campi Flegrei	3	40.83	14.13

2025-02-17 23:56:42	Md 1.8	Campi Flegrei	2	40.83	14.14
2025-02-17 23:24:20	Md 1.3	Campi Flegrei	1	40.83	14.14
2025-02-17 23:23:40	Md 1.8	Campi Flegrei	2	40.83	14.15
2025-02-17 22:32:10	Md 1.1	Campi Flegrei	2	40.83	14.15
2025-02-17 22:20:20	Md 1.4	Campi Flegrei	2	40.83	14.15
2025-02-17 22:15:36	Md 1.4	Campi Flegrei	2	40.83	14.15
2025-02-17 21:28:47	Md 1.2	Campi Flegrei	2	40.83	14.15
2025-02-17 21:24:40	Md 1.3	Campi Flegrei	1	40.82	14.15
2025-02-17 21:24:32	Md 1.8	Campi Flegrei	0	40.83	14.14
2025-02-17 21:23:44	Md 2.8	Campi Flegrei	1	40.83	14.14
2025-02-17 21:18:40	Md 1.8	Campi Flegrei	2	40.83	14.15
2025-02-17 21:05:35	Md 1.6	Campi Flegrei	2	40.83	14.14
2025-02-17 21:03:40	Md 1.0	Campi Flegrei	1	40.83	14.14
2025-02-17 20:57:21	Md 1.0	Campi Flegrei	1	40.83	14.14
2025-02-17 20:53:57	Md 1.4	Campi Flegrei	2	40.83	14.14
2025-02-17 20:53:57	Md 1.3	Campi Flegrei	2	40.83	14.14
2025-02-17 20:39:20	Md 1.2	Campi Flegrei	2	40.83	14.14
2025-02-17 20:29:26	Md 1.6	Campi Flegrei	2	40.83	14.14
2025-02-17 20:02:14	Md 1.6	Campi Flegrei	2	40.83	14.14
2025-02-17 19:47:09	Md 1.5	Campi Flegrei	2	40.83	14.15

Let's analyze the following years that have the same phases of the moon.

1883 – 1997 – 2016

1883-03-07 21:15	Piemonte sud-occidentale
1883-03-16	Monti Prenestini
1883-03-22	Etna - Nicolosi
1883-03-22 22:30	Etna - Belpasso
1883-03-26 21:26	Etna - Nicolosi
1883-04-05 08:58	Etna - Nicolosi
1883-04-28	Villa Santa Lucia
1883-04-28 01:25	Etna - Nicolosi
1883-04-28 15:30	Etna - Torre Del Grifo (Mascalucia)
1883-06-24 07:47	Etna - Versante orientale
1883-07-22	Casamicciola
1883-07-24 07:30	Casamicciola
1883-07-25 09:50	Calabria centrale
1883-07-28 20:15	Casamicciola
1883-07-28 20:25	Isola d'Ischia
1883-07-28 20:25	
1883-07-29	Casamicciola and Panza
1883-07-29 01	Casamicciola and Panza
1883-07-29 04	Casamicciola
1883-07-29 11	Casamicciola
1883-08-01 08	
1883-08-01 11:30	Casamicciola
1883-08-01 15	Casamicciola
1883-08-02 10:30	
1883-08-02 11:30	Casamicciola and Forio
1883-08-03 09	Casamicciola
1883-08-03 13:30	Casamicciola
1883-08-08 10:10	Casamicciola
1883-08-12 05:45	Casamicciola
1883-08-15	
1883-09-02 07:03	Colli Albani
1883-09-09 20:25	Casamicciola

1883-09-10 01	Casamicciola
1883-09-21	Casamicciola
1883-10-22 03:30	Prealpi Trevigiane
1883-11-07 03	Monti della Laga
1883-11-13 17	Etna - Versante orientale
1883-12-31 03:20	

Further observations on the statistical-mathematical model for the study and prediction of earthquakes

Let's analyze the following years that have the same phases of the moon.

1883 – 1997

07 March 1883 earthquake in south-western Piedmont of magnitude 4.2

16 March 1883 earthquake in the Prenestini Mountains of magnitude 5.1

March 22, 1883 earthquake in the Etna area of magnitude 4.6 and 4

March 26, 1883 earthquake in the Etna area of magnitude 3.5

March 9 New Moon; March 12 Moon passage to the descending node; March 23 Full Moon

05 April 1883 earthquake in the Etna area of magnitude 3.5

28 April 1883 earthquake near Cassino and Etna of magnitude 4.2 and 3

April 7 New Moon; 22 April Full Moon; 30 April Moon last quarter

24 June 1883 earthquake in the Etna area of magnitude 4

June 20 Full Moon

22-24 July 1883 earthquake in Casamicciola d'Ischia

25 July 1883 earthquake in central Calabria of magnitude 4.5 approx.

28 July 1883 earthquake in Casamicciola d'Ischia with magnitude 4.26

20 July Full Moon; July 27 last quarter; July 25 Moon at perigee; July 27 Moon passage to the descending node; July 5 (Earth-Sun-Jupiter) – July 4 New Moon

1-2-3-8-12 August 1883 earthquake in Casamicciola d'Ischia ; August 2nd also Forio

3 August New Moon; 11 August Moon in the first quarter

02 September 1883 earthquake in the Alban Hills of magnitude 4.7

9 September, 10 September and 21 September 1883 earthquake in Casamicciola d'Ischia

September 1 New Moon; 9 September Moon in the first quarter; 16 September Full Moon; September 19 Moon passage to the descending node; September 20, 1883 (Venus-Sun-Earth)

22 October 1883 earthquake in the Treviso Prealps of magnitude 4.7

16 October Moon at perigee; 22 October Moon in the last quarter; October 30 New Moon

07 November 1883 earthquake in the Laga Mountains of magnitude 5.1

13 November 1883 earthquake in the Etna area of magnitude 3

November 8 Moon in the first quarter; November 14 Full Moon

December 31, 1883 earthquake in western Slovenia of magnitude 4 approx.

December 29 New Moon

The tour of the seismic radians of the Italian Peninsula was:

South-western Piedmont-Lazio-Sicily-Lazio-Sicily-Campania-Calabria-Campania-Lazio-Campania-Treviso Prealps (Veneto)-Central Apennines of Abruzzo-Sicily-Western Slovenia

1997-03-19 23:10	Sannio-Matese
1997-03-21 16:46	Monte Amiata
1997-03-25	Ionio meridionale
1997-04-16 06:45	Appennino reggiano
1997-04-22 03:12	Sannio-Matese
1997-05-12 13:50	Monti Martani
1997-05-12 22:13	Pianura emiliana
1997-06-05 20:22	Imst
1997-06-09 14:10	Vibonese
1997-06-26 06:08	
1997-07-01 12:15	Tirreno meridionale
1997-07-05 20:18	Ionio meridionale
1997-07-08 08:13	Valle del Crati
1997-07-15 08:51	Appennino umbro-marchigiano
1997-07-30 16:06	Monti Iblei
1997-09-02 10:42	Etna - Zafferana Etnea
1997-09-03 22:07	Appennino umbro-marchigiano
1997-09-03 23:15	Calabria meridionale
1997-09-04	Calabria meridionale
1997-09-07 23:28	Appennino umbro-marchigiano
1997-09-09 16:54	Appennino umbro-marchigiano
1997-09-10 06:46	Appennino umbro-marchigiano
1997-09-26	Appennino umbro-marchigiano
1997-09-26 02:07	
1997-09-26 02:54	
1997-09-26 04:44	Perugino
1997-09-26 09:33	Appennino umbro-marchigiano
1997-09-26 09:40	Appennino umbro-marchigiano
1997-09-26 09:47	Appennino umbro-marchigiano
1997-09-26 09:53	
1997-09-26 13:30	Appennino umbro-marchigiano

1997-09-26 14:54	Appennino umbro-marchigiano
1997-09-27 02:17	Appennino umbro-marchigiano
1997-09-27 04:57	Appennino umbro-marchigiano
1997-09-27 06:03	Appennino umbro-marchigiano
1997-09-27 08:08	Appennino umbro-marchigiano
1997-09-27 13:23	Appennino umbro-marchigiano
1997-09-27 17:13	Appennino umbro-marchigiano
1997-09-27 19:56	Appennino umbro-marchigiano
1997-09-28 03:51	Appennino umbro-marchigiano
1997-09-29 21:01	Val Pusteria
1997-10-02 04:50	Calabria meridionale
1997-10-02 10:59	Appennino umbro-marchigiano
1997-10-02 19:38	Alta Valtiberina
1997-10-02 21:38	Alta Valtiberina
1997-10-03 08:55	Appennino umbro-marchigiano
1997-10-04	
1997-10-04 06:04	Valnerina
1997-10-04 06:49	Valnerina
1997-10-04 15:07	Valnerina
1997-10-04 16:13	Valnerina
1997-10-04 18:47	Valnerina
1997-10-05 10:22	
1997-10-06 23:24	Appennino umbro-marchigiano
1997-10-07 01:24	Appennino umbro-marchigiano
1997-10-07 03:43	
1997-10-07 04:25	Appennino umbro-marchigiano
1997-10-07 05:09	Appennino umbro-marchigiano
1997-10-07 19:56	Appennino umbro-marchigiano
1997-10-11 03:20	Appennino umbro-marchigiano
1997-10-12 11:08	Valnerina
1997-10-12 11:12	Valnerina

1997-10-12 11:14	Valnerina
1997-10-12 18:12	Valnerina
1997-10-12 20:15	
1997-10-12 21:31	Valnerina
1997-10-12 21:52	Valnerina
1997-10-13 11:01	Valnerina
1997-10-13 13:09	Valnerina
1997-10-14 15:23	Valnerina
1997-10-14 16:24	Valnerina
1997-10-14 19:34	Valnerina
1997-10-14 23:23	Appennino umbro-marchigiano
1997-10-15 11:51	Valnerina
1997-10-15 18:49	Appennino umbro-marchigiano
1997-10-15 22:53	Valnerina
1997-10-16 02:23	Valnerina
1997-10-16 04:52	Appennino umbro-marchigiano
1997-10-16 12	Appennino umbro-marchigiano
1997-10-16 17:31	Valnerina
1997-10-17 14:23	Valnerina
1997-10-19 16	Appennino umbro-marchigiano
1997-10-23 08:58	Appennino umbro-marchigiano
1997-10-25 03:08	Valnerina
1997-10-29 12:02	Etna - Fossa Dell'Acqua (Acireale)
1997-10-31 04:23	Préalpes de Digne
1997-11-06 02:20	Monti Tiburtini
1997-11-08 15:31	Valnerina
1997-11-09 16:34	Valnerina
1997-11-09 19:07	Valnerina
1997-11-10 22:22	Valnerina
1997-11-11 07:27	Etna - S. Maria la Stella (Aci S.

1997-11-11 18:44	Etna - S. Maria la Stella (Aci S.
1997-11-24 19:04	Sannio-Matese
1997-11-25 13:47	
1997-11-27 07:02	Appennino umbro-marchigiano
1997-11-30 11:24	Valnerina
1997-12-03 08:28	Etna - Versante sud-occidentale
1997-12-07 06:34	Appennino umbro-marchigiano
1997-12-09 01:36	Friuli
1997-12-13 04:30	Tirreno meridionale
1997-12-24 09:40	Etna - Versante meridionale
1997-12-24 17:53	Garfagnana
1997-12-31 16:02	Valnerina

Year 1997

19-21-25 March earthquakes near Sannio-Matese, Monte Amiata, southern Ionian with magnitude 4.5, 4 and 4.5

16-22 April earthquakes near the Reggio Emilia Apennines, Sannio-Matese of magnitude 4

12 May earthquakes near Monti Martani, Emilian Plain of magnitude 4.7 and 3.7

5-9 June earthquakes near Imst and Vibonese 3.2 – 4.2 and 4.2

1-5-8-15-30 July earthquakes near the southern Tyrrhenian Sea, southern Ionian Sea, Crati Valley, Umbrian-Marche-Iblei Mountains-Iblei Apennines of magnitude 4, 3.8, 4, 3.3 and 4.5

2-3-4-7-9-10-26-27-28-29 September earthquakes near Etna, Umbrian-Marche Apennines, southern Calabria, Umbrian-Marche Apennines- Central-Eastern Alps (between South Tyrol and East Tyrol) of magnitude 3.5 , 4.5, 4.4, 4 , 4.2, 3.8, 3.9 , 5.6, 4.2, 4.4, 6 (26.09.1997), 5, 4.5 , 4.3, 4, 3.9, 4.2, 4.3, 4.2, 4.2, 4.3, 3.9, 4

2-3-4-5-6-7-11-12-13-14-15-16-17-19-23-25-29-31 October earthquakes Southern Calabria-Umbrian-Marche-Upper Tiber Valley-Umbrian-Marche-Lazio-Etna-Prealps of Provençe of magnitude 4, 4.4, 4.4, 4.2, 4.4, 4.3, 5.2, 4, 4.4, 4.4, 4.7, 4.4, 5.5 (06.10.1997), 4.2, 4, 4.5, 4, 4, 5.2, 4.3, 4.2, 4, 4.3, 4.3, 4.3, 4.3, 5.6 (14.10.1997), 4, 4, 4.4, 4.3, 4.3, 4.3, 4.3, 4.3, 4.2, 4.2, 4.2, 3.9, 4.2, 3.1, 4.2

6-8-9-10-11-24-25-27-30 November earthquakes near Monti Tiburtini- Umbrian-Marche-Lazio-Etna-Sannio-Matese Apennines- Umbrian-Marche-Lazio Apennines of magnitude 4.2, 4.6, 3.9, 4.9, 4, 3, 3.4, 3.9, 4.1, 4.3

3-7-9-13-24-31 December earthquakes near Etna, Umbrian-Marche Apennines, Friuli, southern Tyrrhenian Sea, Etna, Garfagnana and Umbrian-Marche-Lazio Apennines 3.4, 4, 2.8, 4.4, 4, 4.3, 4.3

Moon Phases:

March 24 Full Moon

14 April Moon first quarter; April 22 Full Moon

May 6 New Moon; 14 May Moon first quarter

June 5 New Moon; 13 June Moon first quarter

July 4 New Moon; July 12 Moon in the first quarter;

September 1 New Moon; 10 September Moon in the first quarter; September 23 Moon in the last quarter

26 September 1997 Maximum seismic earthquake in the Umbrian-Marche Apennines of magnitude 6

October 1 New Moon; 9 October Moon in the first quarter; 16 October Full Moon; 23 October Moon in the last quarter; October 31 New Moon.

14 October 1997 earthquake in the Umbrian-Marche-Lazio Apennines Maximum seismic magnitude 5.6

November 7 Moon in the first quarter; 14 November Full Moon; November 21 Moon in the last quarter; November 30 New Moon

7 December Moon in the first quarter; 14 December Full Moon; December 21 Moon last quarter; December 29 New Moon

The tour of the seismic radians of the Italian Peninsula was:

Campania, Tuscany, Southern Ionian, Emilia Romagna, Campania, Umbrian-Marche Apennines, Emilia Romagna, Austria, Calabria, Southern Tyrrhenian Sea, Southern Ionian, Calabria, Umbrian-Marche Apennines, Sicily, Umbrian-Marche Apennines, Southern Calabria, Umbrian-Marche Apennines, Central-Eastern Alps (between South Tyrol and East Tyrol), Southern Calabria, Umbria-Marche Apennines, Umbria-Tuscany, Umbria-Marche-Lazio Apennines, Sicily, France-Italy border, Lazio, Umbrian-Marche-Lazio Apennines, Sicily, Campania, Umbrian-Marche-Lazio Apennines, Sicily, Umbrian-Marche Apennines, Friuli, Southern Tyrrhenian Sea, Sicily, Tuscany and Umbrian-Marche-Lazio Apennines

Let's examine the connections between earthquakes and the phases of the moon in the years 1883 and 1997.

Earthquake Connections --> Moon Phases of 1883

March 1883

- **March 9:** New Moon
 - **7 March:** Earthquake in south-western Piedmont, magnitude 4.2
 - **16 March:** Earthquake in the Prenestini Mountains, magnitude 5.1
 - **22 March:** Earthquake in the Etna area, magnitude 4.6 and 4
 - **26 March:** Earthquake in the Etna area, magnitude 3.5
- **March 23:** Full Moon
 - Series of earthquakes in the Etna area between 22 and 26 March, immediately after the full moon.

April 1883

- **April 7:** New Moon
- **April 22:** Full Moon
 - **28 April:** Earthquake near Cassino and Etna, magnitude 4.2 and 3.

June 1883

- **June 20:** Full Moon
 - **24 June:** Earthquake in the Etna area, magnitude 4.

July 1883

- **July 20:** Full Moon
- **July 25:** Moon at perigee
- **July 27:** Last quarter and Moon passage to the descending node
 - **22-24 July:** Earthquake in Casamicciola d'Ischia.
 - **25 July:** Earthquake in central Calabria, magnitude 4.5.

28 July 1883: Earthquake in Casamicciola d'Ischia, magnitude 4.26.

August 1883

- **August 3:** New Moon
- **August 11:** Moon in the first quarter
 - **1-2-3-8-12 August:** Earthquakes in Casamicciola d'Ischia; 2 August also Forio.

September 1883

- **September 1:** New Moon
- **September 9:** Moon in the first quarter
- **September 16:** Full Moon

- **September 19:** Moon Passage at the descending node
 - **2 September:** Earthquake in the Alban Hills, magnitude 4.7.
 - **9-10-21 September:** Earthquakes in Casamicciola d'Ischia.

October 1883

- **October 22:** Last quarter
 - **22 October:** Earthquake in the Treviso Pre-Alps, magnitude 4.7.

November 1883

- **November 8:** Moon in the first quarter
- **November 14:** Full Moon
 - **7 November:** Earthquake in the Laga Mountains, magnitude 5.1.
 - **13 November:** Earthquake in the Etna area, magnitude 3.

December 1883

- **December 29:** New Moon
 - **December 31:** Earthquake in western Slovenia, magnitude 4.

Earthquake Connections --> Moon Phases of 1997

March 1997

- **March 24:** Full Moon
 - **19-21-25 March:** Earthquakes near Sannio-Matese, Monte Amiata, southern Ionian, magnitude 4.5, 4, 4.5.

April 1997

- **April 14:** First quarter Moon
- **April 22:** Full Moon
 - **16-22 April:** Earthquakes near the Reggio Emilia Apennines, Sannio-Matese, magnitude 4.

May 1997

- **May 6:** New Moon
- **May 14:** First quarter Moon
 - **12 May:** Earthquakes near Monti Martani, Emilian Plain, magnitude 4.7, 3.7.

June 1997

- **June 5:** New Moon
- **June 13:** Moon first quarter
 - **5-9 June:** Earthquakes near Imst and Vibonese, magnitude 3.2, 4.2, 4.2.

July 1997

- **July 4:** New Moon
- **July 12:** Moon in the first quarter
 - **1-5-8-15-30 July:** Earthquakes near the southern Tyrrhenian Sea, southern Ionian Sea, Crati Valley, Umbrian-Marche-Iblei Mountains, magnitude 4, 3.8, 4, 3.3, 4.5.

July 30th: Monti Iblei (Sicily) with a magnitude of 4.5

September 1997

- **September 1:** New Moon
- **September 10:** Moon in the first quarter
- **September 23:** Moon in the last quarter
 - **2-3-4-7-9-10-26-27-28-29 September:** Earthquakes near Etna, Umbrian-Marche Apennines, Southern Calabria, Umbrian-Marche Apennines, Central-Eastern Alps, magnitude 3.5, 4.5, 4.4, 4, 4.2, 3.8, 3.9, 5.6, 4.2, 4.4, 6, 5, 4.5, 4.3, 4, 3.9, 4.2, 4.3, 4.2, 4.2, 4.2, 4.3, 3.9, 4.

October 1997

- **October 1:** New Moon

- **October 9:** Moon in the first quarter
- **October 16:** Full Moon
- **October 23:** Moon in the last quarter
- **October 31:** New Moon
 - **2-3-4-5-6-7-11-12-13-14-15-16-17-19-23-25-29-31 October:** Earthquakes near southern Calabria, Umbrian-Marche Apennines, Upper Tiber Valley, Umbrian-Marche Apennines, Lazio, Etna, Prealps of Provence, magnitude 4, 4.2, 4.4, 4.3, 5.2, 4, 4.4, 4.4, 4.7, 4.4, 5.5, 4.2, 4, 4.5, 4, 4, 4, 5.2, 4.3, 4.2, 4, 4.3, 4.3, 4.3, 4.3, 5.6, 4, 4, 4.4, 4.3, 4.3, 4.3, 4.3, 4.3, 4.2, 4.2, 3.9, 4.2, 3.1, 4.2.

November 1997

- **November 7:** Moon in the first quarter
- **November 14:** Full Moon
- **November 21:** Moon in the last quarter
- **November 30:** New Moon
 - **6-8-9-10-11-24-25-27-30 November:** Earthquakes near Monti Tiburtini, Umbria-Marche Apennines, Lazio, Etna, Sannio-Matese, magnitude 4.2, 4.6, 3.9, 4.9, 4, 3, 3.4, 3.9, 4.1, 4.3.

December 1997

- **December 7:** Moon in the first quarter
- **December 14:** Full Moon
- **December 21:** Moon last quarter
- **December 29:** New Moon
 - **3-7-9-13-24-31 December:** Earthquakes near Etna, Umbrian-Marche Apennines, Friuli, Southern Tyrrhenian Sea, Etna, Garfagnana, magnitude 3.4, 4, 2.8, 4.4, 4, 4.3, 4.3.

Connection Analysis

1883

- **Full Moon:** Several significant earthquakes have occurred around full moons, such as in March, April, June, July, September, and November.
- **New Moon:** Some events occurred near new moons, such as in March, September, and December.

1997

- **Full Moon:** Several significant earthquakes have occurred around full moons, such as in March, April, July, and October.
- **New Moon:** Some events have occurred near new moons, such as in March, April, September, and October.

Conclusions

Year 1883

- **Full Moon:** Several significant earthquakes have occurred around full moons:
 - **March:** Earthquake in southwestern Piedmont on March 7 (before the full moon) and in the Etna area between March 22 and 26 (immediately after the full moon on March 23).
 - **April:** Earthquakes near Cassino and Mount Etna on April 28 (after the full moon on April 22).
 - **June:** Earthquake in the Etna area on June 24 (after the full moon on June 20).
 - **July:** Earthquakes in Casamicciola d'Ischia between 22 and 24 July (after the full moon on 20 July).
 - **September:** Earthquakes in the Alban Hills on September 2nd and in Casamicciola d'Ischia between September 9th and 21st (near the full moon on September 16th).
 - **November:** Earthquakes in the Monti della Laga on November 7 and in the Etna area on November 13 (near the full moon on November 14).
- **New Moon:** Some events occurred near the new moons:
 - **March:** Earthquake in southwestern Piedmont on March 7 (just before the new moon on March 9).

- **September:** Earthquakes in the Alban Hills on September 2 (near the new moon on September 1).
- **December:** Earthquake in western Slovenia on December 31 (after the new moon on December 29).

Year 1997

- **Full Moon:** Several significant earthquakes have occurred around full moons:
 - **March:** Earthquakes near Sannio-Matese, Monte Amiata and southern Ionian between 19 and 25 March (near the full moon on 24 March).
 - **April:** Earthquakes near the Reggio Emilia Apennines and Sannio-Matese between 16 and 22 April (near the full moon on 22 April).
 - **September:** Earthquakes near Etna and the Umbrian-Marche Apennines between 9 and 29 September (in correspondence with the full moon of 16 September).
 - **October:** Earthquakes near southern Calabria and the Umbrian-Marche Apennines between 2 and 31 October (after the full moon on 16 October).
- **New Moon:** Some events occurred near the new moons:
 - **March:** Earthquakes near Sannio-Matese, Monte Amiata and southern Ionian between 19 and 25 March (near the new moon on 6 March).
 - **September:** Earthquakes near Etna and the Umbrian-Marche Apennines between 9 and 29 September (near the new moon on 1 September).
 - **October:** Earthquakes in the Umbrian-Marche Apennines between 2 and 31 October (at the new moon on 1 October).

Synthesis of Earthquake Connections --> Moon Phases

- **Time Patterns:** In both 1883 and 1997, significant earthquakes tend to occur near the phases of the moon, particularly during full moons and, in some cases, new moons.
- **Geography:** Both years show seismic activity in similar geographical areas, with numerous earthquakes in Italy, especially in mountainous and volcanic areas.

- **Correlation:** Although there are temporal connections between the phases of the moon and earthquakes, it is important to note that further scientific studies and analysis are needed to establish a direct causal correlation.

28 July 1883: Earthquake in Casamicciola d'Ischia (Campania) with a magnitude of 4.26.

July 30, 1997: Earthquake in the Iblei Mountains (Sicily) of magnitude 4.5

Let's notice this additional connection:

July 28, 1883: Earthquake in Casamicciola d'Ischia (Campania) of magnitude 4.26 ---
> August 3 New Moon;

July 30, 1997: Earthquake in the Iblei Mountains (Sicily) of magnitude 4.5 --->
August 3 New Moon

Here is a summary of these observations:

Connection between Earthquakes and Moon Phases

July 28, 1883

- **Event:** Earthquake in Casamicciola d'Ischia (Campania)
- **Magnitudo:** 4.26
- **Next Moon Phase:** August 3 - New Moon

July 30, 1997

- **Event:** Earthquake in the Iblei Mountains (Sicily)
- **Magnitudo:** 4.5
- **Next Moon Phase:** August 3 - New Moon

Connection Analysis

- **Thunderstorm:** Both earthquakes occurred just before the same moon phase (new moon on August 3).
- **Geographical:** Both seismic events occurred in Italy, in two nearby southern regions, Campania and Sicily.
- **Magnitude:** The magnitudes of the two earthquakes are similar (4.26 and 4.5).

Final Thoughts

This connection suggests a possible temporal relationship between earthquakes and lunar phases. However, while the coincidence is interesting, it is essential to consider additional data and analysis to establish a direct scientific correlation.

This connection also supports the thesis of the Seismic Radiant of Southern Italy (Ischia and Etna-Sicily), the "fulcrum" of a first type of lever, and in the months before and after these dates (end of July 1883 and 1997) the seismic events occurred in central-northern Italy and Slovenia-Friuli

This observation reinforces the thesis of the seismic radiant of Southern Italy as the "fulcrum" of a lever of the first kind. Here's a summary of the connections:

Southern Italy Seismic Radiant

- **Ischia and Etna-Sicily:** Key areas that seem to act as the "fulcrum" of the seismic lever.
- **Late July 1883 and 1997:** Significant seismic events recorded in these areas.

Connections with Central-Northern Italy and Slovenia-Friuli

- **1883:**
 - **March:** Earthquakes in south-western Piedmont.
 - **October:** Earthquake in the Treviso Prealps.
 - **December:** Earthquake in western Slovenia.
- **1997:**
 - **March:** Earthquakes near Monte Amiata.
 - **July:** Earthquakes near the Hyblaeen Mountains.

- **September:** Earthquakes in the Umbrian-Marche Apennines and the Central-Eastern Alps.
- **October:** Earthquakes in the Umbrian-Marche Apennines and Prealps of Provence.
- **December: Earthquakes** in Friuli.

Connection Analysis

- **Seismic Radiant:** Southern Italy, in particular Ischia and Etna, seems to represent a point of high seismic intensity, which manifests itself through significant earthquakes.
- **Event Propagation:** The seismic events in the preceding and following months are distributed towards central-northern Italy and the Slovenia-Friuli region, suggesting a mechanism for the propagation of seismic waves.
- **Moon Phases:** The connections with the phases of the moon indicate that earthquakes tend to occur in the vicinity of full moons and new moons, further strengthening the thesis.

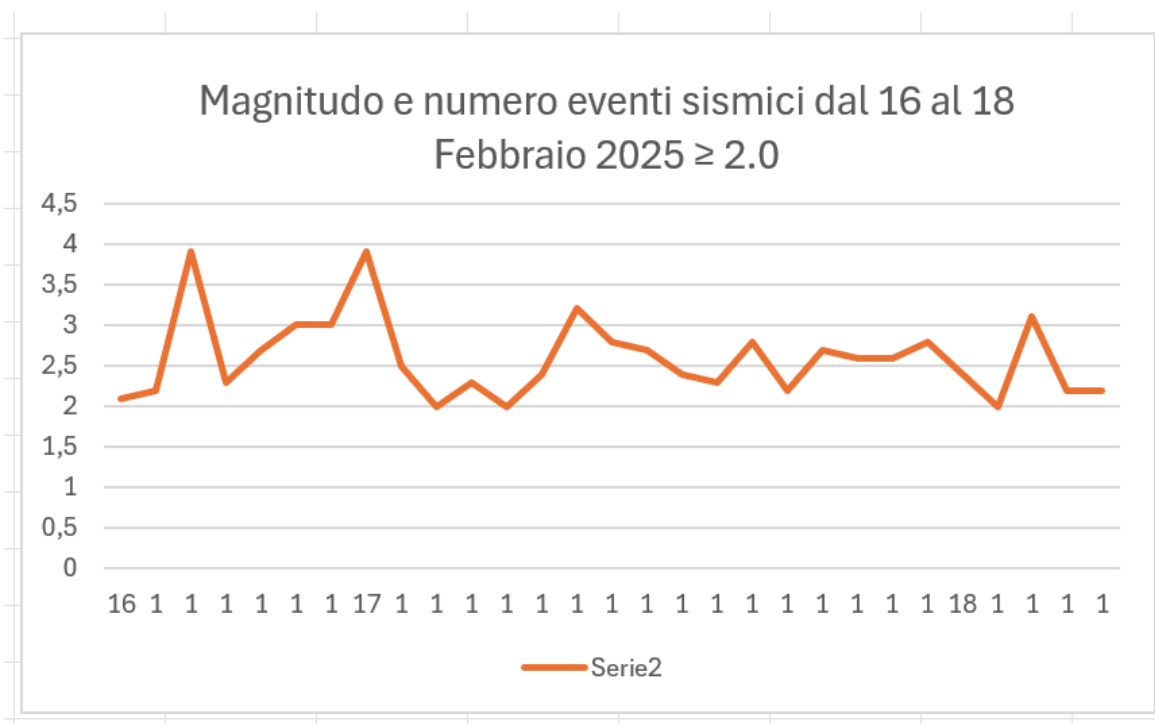
This analysis suggests a pattern of seismic activity involving the seismic radiant of southern Italy as the "fulcrum" and a propagation of events to other regions of Italy and Slovenia. The temporal correlation with the phases of the moon offers further food for thought to better understand the seismic dynamics of the region.

Data e Ora (Italia) 📅 ⚙️	Magnitudo 📊 ⚙️	Zona 📍	Profondità 📏	Latitudine	Longitudine
2025-02-19 04:04:15	Md 3.0	Campi Flegrei	2	40.83	14.15
2025-02-19 03:49:49	Mwp 5.7	Papua New Guinea [Sea]	9	-9.54	152.60
2025-02-19 01:31:12	Md 3.1	Campi Flegrei	2	40.83	14.15
2025-02-19 00:39:12	Mwp 5.7	Indonesia [Sea]	18	-3.50	131.02
2025-02-18 17:54:34	mb 5.1	Costa Greca Ionica (GRECIA)	12	37.98	21.11
2025-02-18 17:21:44	ML 2.3	5 km N Cutro (KR)	29	39.08	17.00
2025-02-18 16:30:10	ML 2.3	4 km N Cutro (KR)	30	39.07	16.99
2025-02-18 16:25:17	ML 3.5	2 km NE San Mauro Marchesato (KR)	24	39.12	16.93
2025-02-18 15:22:19	ML 3.0	4 km SE San Mauro Marchesato (KR)	29	39.09	16.96
2025-02-18 15:21:53	ML 2.3	3 km N Cutro (KR)	33	39.06	16.99
2025-02-18 15:20:24	ML 3.1	5 km N Cutro (KR)	30	39.08	16.99
2025-02-18 15:16:30	ML 3.1	2 km SE Scandale (KR)	27	39.10	16.97
2025-02-18 14:29:44	ML 3.5	2 km E Scandale (KR)	25	39.12	16.98
2025-02-18 14:11:09	Mw 3.8	5 km SE Scandale (KR)	32	39.09	16.99
2025-02-18 14:05:16	Mw 3.4	2 km E Santa Severina (KR)	23	39.15	16.94
2025-02-18 13:40:58	Mw 3.6	3 km E Scandale (KR)	23	39.12	16.99
2025-02-18 13:30:18	ML 2.3	4 km E Zocca (MO)	25	44.34	11.05
2025-02-18 10:28:57	Md 2.2	Campi Flegrei	2	40.83	14.15
2025-02-18 07:08:10	mb 5.0	Dodecanese Islands, Greece [Sea: Greece]	9	36.50	25.59
2025-02-18 05:46:56	mb 4.9	Dodecanese Islands, Greece [Sea: Greece]	22	36.53	25.66
2025-02-18 03:54:09	mb 4.6	Dodecanese Islands, Greece [Sea: Greece]	9	36.52	25.79
2025-02-18 03:22:37	Md 2.2	Campi Flegrei	2	40.83	14.14
2025-02-18 03:22:19	Md 3.1	Campi Flegrei	2	40.83	14.14
2025-02-18 02:29:25	ML 2.2	Costa Marchigiana Pesarese (Pesaro Urbino)	9	43.97	13.32
2025-02-18 01:39:50	ML 2.4	Isole Eolie (Messina)	19	38.45	14.41
2025-02-18 01:28:48	Md 2.0	Campi Flegrei	2	40.83	14.14
2025-02-18 01:14:26	ML 2.0	1 km NE San Piero Patti (ME)	37	38.06	14.97
2025-02-18 01:06:37	Md 2.4	Campi Flegrei	2	40.83	14.15
2025-02-17 21:23:44	Md 2.8	Campi Flegrei	1	40.83	14.14
2025-02-17 20:27:40	ML 2.2	1 km E Sessa Aurunca (CE)	5	41.24	13.95

Data e Ora (Italia) 📅	Magnitudo 📊	Zona 📍	Profondità 📏	Latitudine	Longitudine
2025-02-17 18:55:35	Md 2.6	Campi Flegrei	2	40.83	14.14
2025-02-17 18:23:00	ML 2.0	Costa Siciliana nord orientale (Messina)	116	38.28	15.20
2025-02-17 18:15:54	Md 2.6	Campi Flegrei	3	40.83	14.15
2025-02-17 17:53:24	Md 2.7	Campi Flegrei	2	40.83	14.14
2025-02-17 16:49:17	mb 4.6	Southern Greece [Sea: Greece]	32	36.15	24.41
2025-02-17 15:05:40	mb 4.6	Dodecanese Islands, Greece [Sea: Greece]	9	36.59	25.68
2025-02-17 12:33:06	Md 2.2	Campi Flegrei	3	40.84	14.11
2025-02-17 12:26:32	Md 2.8	Campi Flegrei	2	40.83	14.12
2025-02-17 12:26:22	Md 2.3	Campi Flegrei	3	40.83	14.12
2025-02-17 09:39:38	Md 2.4	Campi Flegrei	1	40.82	14.14
2025-02-17 08:58:51	ML 2.1	Isole Eolie (Messina)	11	38.46	14.41
2025-02-17 08:49:51	mb 5.0	Dodecanese Islands, Greece [Sea: Greece]	9	36.52	25.68
2025-02-17 08:46:25	mb 4.6	Dodecanese Islands, Greece [Sea: Greece]	9	36.50	25.57
2025-02-17 08:14:19	Md 2.7	Campi Flegrei	2	40.83	14.15
2025-02-17 08:14:11	Md 2.8	Campi Flegrei	2	40.82	14.14
2025-02-17 08:12:10	Md 3.2	Campi Flegrei	3	40.83	14.14
2025-02-17 05:04:21	Md 2.4	Campi Flegrei	0	40.82	14.14
2025-02-17 03:14:37	Md 2.0	Campi Flegrei	2	40.83	14.15
2025-02-17 01:39:03	Md 2.3	Campi Flegrei	2	40.83	14.14
2025-02-17 00:21:43	Md 2.0	Campi Flegrei	1	40.83	14.15
2025-02-17 00:20:48	Md 2.5	Campi Flegrei	2	40.83	14.15
2025-02-17 00:19:52	Md 3.9	Campi Flegrei	2	40.83	14.15
2025-02-17 00:05:27	ML 3.4	Costa Croata Settentrionale (CROAZIA)	8	44.31	15.55
2025-02-16 23:46:47	Md 3.0	Campi Flegrei	2	40.83	14.14
2025-02-16 23:45:12	Md 3.0	Campi Flegrei	2	40.83	14.15
2025-02-16 17:30:41	Md 2.7	Campi Flegrei	3	40.83	14.13
2025-02-16 17:18:55	Md 2.3	Campi Flegrei	3	40.83	14.14
2025-02-16 16:23:43	ML 2.2	3 km NE Alseno (PC)	24	44.92	9.99
2025-02-16 15:30:02	Md 3.9	Campi Flegrei	3	40.81	14.11
2025-02-16 13:50:21	ML 2.1	Costa Calabria sud orientale (Reggio di Calabria)	7	38.08	16.43

Data e Ora (Italia) 📅🕒	Magnitudo 📏📊	Zona 📍	Profondità 📏	Latitudine	Longitudine
2025-02-16 05:31:20	ML 2.0	Costa Marchigiana Pesarese (Pesaro Urbino)	39	44.13	13.00
2025-02-16 04:30:10	Md 2.2	Campi Flegrei	2	40.83	14.14
2025-02-16 03:53:09	Md 2.1	Campi Flegrei	3	40.83	14.16
2025-02-16 00:45:57	ML 2.0	2 km SW Lama Mocogno (MO)	25	44.30	10.72

From 16 to 18.02.2025 there were 29 seismic events of intensity ≥ 2



From the sum of the magnitudes of the various seismic events, after a few simple steps, we obtain:

$$(2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2)$$

Input

$$2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2$$

Result

75.3

75.3

From which:

$$(18(2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2))^{1/15}$$

Input

$$(18(2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2))^{(1/15)}$$

Result

1.61735180947712260364659663261568482437095743555246214465803473'.
570768326...

1.6173518094771226.....

From the following **Ramanujan modular equation**

$$G_{65} = \left\{ \left(\frac{1 + \sqrt{5}}{2} \right) \left(\frac{3 + \sqrt{13}}{2} \right) \right\}^{\frac{1}{4}} \sqrt{ \left\{ \sqrt{ \left(\frac{9 + \sqrt{65}}{8} \right) } + \sqrt{ \left(\frac{1 + \sqrt{65}}{8} \right) } \right\} }.$$

and observing that:

$$\left. \begin{aligned} \pi &= \frac{24}{\sqrt{n}} \log(2^{\frac{1}{4}} G_n) \\ \pi &= \frac{24}{\sqrt{n}} \log(2^{\frac{1}{4}} g_n) \end{aligned} \right\}$$

we obtain

$$24/(\sqrt{65}) * \ln(2^{1/4}((((18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+2.8+2.4+2+3.1+2.2+2.2))^{1/15})((3+\sqrt{13})/2))^{1/4}\sqrt{((1/8(9+\sqrt{65}))^{1/2})+(1/8(1+\sqrt{65}))^{1/2}})))$$

Input

$$\frac{24}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\left((18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2))^{(1/15)} \left(\frac{1}{2} (3 + \sqrt{13}) \right) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)$$

$\log(x)$ is the natural logarithm

Result

3.14127882176801551071825770889062538715719601350638152658465013'.
42237694...

3.14127882176801551...

Alternative representation

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2))^{(1/15)} (3 + \sqrt{13}) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) 24 =$$

$$\frac{24 \log_e \left(\sqrt[4]{2} \sqrt[4]{\frac{1}{2}} \sqrt[15]{1355.4} (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right)}{\sqrt{65}}$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2))^{(1/15)} (3 + \sqrt{13}) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) 24 =$$

$$\frac{24 \log(a) \log_a \left(\sqrt[4]{2} \sqrt[4]{\frac{1}{2}} \sqrt[15]{1355.4} (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right)}{\sqrt{65}}$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2))^{(1/15)} (3 + \sqrt{13}) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) 24 =$$

$$\frac{24 \operatorname{Li}_1 \left(1 - \sqrt[4]{2} \sqrt[4]{\frac{1}{2}} \sqrt[15]{1355.4} (3 + \sqrt{13}) \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right)}{\sqrt{65}}$$

$\log_b(x)$ is the base- b logarithm

$\text{Li}_n(x)$ is the polylogarithm function

Series representation

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2))^{(1/15)} (3 + \sqrt{13}) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)$$

$$24 = \frac{1}{\sqrt{64} \sum_{k=0}^{\infty} 64^{-k} \binom{\frac{1}{2}}{k}}$$

$$24 \left(\log \left(-1 + 1.12772 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) - \sum_{k=1}^{\infty} \frac{(-1)^k \left(-1 + 1.12772 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-k}}{k} \right)$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2)) ^{(1/15)} (3 + \sqrt{13}) \right) ^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)$$

$$24 = \frac{1}{\sqrt{64} \sum_{k=0}^{\infty} 64^{-k} \binom{\frac{1}{2}}{k}}$$

$$24 \log \left(\frac{1.12772}{\sqrt{\frac{1}{4} (-4 + \sqrt{2} \sqrt{1 + \sqrt{65}} + \sqrt{2} \sqrt{9 + \sqrt{65}})}} \sqrt[4]{3 + \sqrt{12} \sum_{k=0}^{\infty} 12^{-k} \binom{\frac{1}{2}}{k}} \sum_{k=0}^{\infty} 4^k \binom{\frac{1}{2}}{k} (-4 + \sqrt{2} \sqrt{1 + \sqrt{65}} + \sqrt{2} \sqrt{9 + \sqrt{65}})^{-k} \right)$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + \right. \right. \right. \\ \left. \left. \left. 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + \right. \right. \right. \\ \left. \left. \left. 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2) \right)^{(1/15)} \right. \right. \\ \left. \left. (3 + \sqrt{13}) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \Bigg) 24 = \\ \left(24 \left(\log \left(-1 + 1.12772 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) - \right. \right. \\ \left. \left. \sum_{k=1}^{\infty} \frac{(-1)^k \left(-1 + 1.12772 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-k}}{k} \right) \right) / \\ \left(\exp \left(i \pi \left\lfloor \frac{\arg(65 - x)}{2 \pi} \right\rfloor \right) \sqrt{x} \sum_{k=0}^{\infty} \frac{(-1)^k (65 - x)^k x^{-k} \left(-\frac{1}{2} \right)_k}{k!} \right) \\ \text{for } (x \in \mathbb{R} \text{ and } x < 0)$$

$\log(x)$ is the natural logarithm

$\binom{n}{m}$ is the binomial coefficient

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

i is the imaginary unit

\mathbb{R} is the set of real numbers

Integral representation

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + \right. \right. \\ \left. \left. 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + \right. \right. \\ \left. \left. 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2) \right)^{(1/15)} \right. \\ \left. (3 + \sqrt{13}) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \Bigg) \\ 24 = \frac{24}{\sqrt{65}} \int_1^{1.12772 \sqrt[4]{3 + \sqrt{13}}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \frac{1}{t} dt$$

$$\frac{1}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + \right. \right. \\ \left. \left. 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + \right. \right. \\ \left. \left. 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2) \right)^{(1/15)} \right. \\ \left. (3 + \sqrt{13}) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \Bigg) 24 = \\ \frac{12}{i \pi \sqrt{65}} \int_{-i \infty + \gamma}^{i \infty + \gamma} \frac{\Gamma(-s)^2 \Gamma(1+s) \left(-1 + 1.12772 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-s}}{\Gamma(1-s)} ds \text{ for } -1 < \gamma < 0$$

$\log(x)$ is the natural logarithm

$\Gamma(x)$ is the gamma function

i is the imaginary unit

And again:

$$\frac{1}{6} \left(\frac{24}{\sqrt{65}} \ln(2^{1/4}) \left(\left(\left(18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+2.8+2.4+2+3.1+2.2+2.2) \right)^{1/15} \left(\frac{3+\sqrt{13}}{2} \right)^{1/4} \sqrt{\left(\left(\frac{1}{8}(9+\sqrt{65}) \right)^{1/2} + \left(\frac{1}{8}(1+\sqrt{65}) \right)^{1/2} \right) \right) \right)^2 \right)$$

Input

$$\frac{1}{6} \left(\frac{24}{\sqrt{65}} \log \left(\sqrt[4]{2} \left(\left(\left(18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+2.8+2.4+2+3.1+2.2+2.2) \right)^{(1/15)} \left(\frac{1}{2} (3+\sqrt{13}) \right) \right) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8}(9+\sqrt{65})} + \sqrt{\frac{1}{8}(1+\sqrt{65})}} \right) \right)^2$$

Result

1.64460543934804195960456178377000601499494583136670425531727582'.
040623529...

1.6446054393480419596...

Alternative representation

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\left(\frac{1}{2} (18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+2.8+2.4+2+3.1+2.2+2.2) \right)^{(1/15)} (3+\sqrt{13}) \right) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8}(9+\sqrt{65})} + \sqrt{\frac{1}{8}(1+\sqrt{65})}} \right) \right)^2 =$$

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log_e \left(\sqrt[4]{2} \sqrt[4]{\frac{1}{2} \sqrt[15]{1355.4} (3+\sqrt{13})} \sqrt{\sqrt{\frac{1}{8}(1+\sqrt{65})} + \sqrt{\frac{1}{8}(9+\sqrt{65})}} \right) \right)^2$$

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \right. \right. \\ \left. \left. \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + \right. \right. \right. \right. \\ \left. \left. \left. \left. 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + \right. \right. \right. \right. \\ \left. \left. \left. \left. 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + \right. \right. \right. \right. \\ \left. \left. \left. \left. 2.2 + 2.2) \right)^{(1/15)} (3 + \sqrt{13}) \right)^{(1/4)} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log(a) \log_a \left(\sqrt[4]{2} \sqrt[4]{\frac{1}{2} \sqrt[15]{1355.4} (3 + \sqrt{13})} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right) \right) \right)^2$$

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \right. \right. \\ \left. \left. \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + \right. \right. \right. \right. \\ \left. \left. \left. \left. 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + \right. \right. \right. \right. \\ \left. \left. \left. \left. 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + \right. \right. \right. \right. \\ \left. \left. \left. \left. 2.2 + 2.2) \right)^{(1/15)} (3 + \sqrt{13}) \right)^{(1/4)} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right) \right)^2 = \\ \frac{1}{6} \left(-\frac{1}{\sqrt{65}} 24 \operatorname{Li}_1 \left(1 - \sqrt[4]{2} \sqrt[4]{\frac{1}{2} \sqrt[15]{1355.4} (3 + \sqrt{13})} \right. \right. \\ \left. \left. \sqrt{\sqrt{\frac{1}{8} (1 + \sqrt{65})} + \sqrt{\frac{1}{8} (9 + \sqrt{65})}} \right) \right) \right)^2$$

$\log(x)$ is the natural logarithm

$\log_b(x)$ is the base- b logarithm

$\operatorname{Li}_n(x)$ is the polylogarithm function

Series representation

$$\begin{aligned}
 & \frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \right. \right. \\
 & \quad \left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + \right. \\
 & \quad \quad \quad 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + \\
 & \quad \quad \quad 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + \\
 & \quad \quad \quad 2.2 + 2.2)) ^{(1/15)} (3 + \sqrt{13}) \Big)^{(1/4)} \\
 & \quad \left. \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)^2 = \\
 & \left(96 \left(\log \left(-1 + 1.12772 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) - \right. \right. \\
 & \quad \left. \left. \sum_{k=1}^{\infty} \frac{(-1)^k \left(-1 + 1.12772 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-k}}{k} \right)^2 \right) / \\
 & \left(\sqrt{64}^2 \left(\sum_{k=0}^{\infty} 64^{-k} \left(\frac{\frac{1}{2}}{k} \right) \right)^2 \right)
 \end{aligned}$$

$$\begin{aligned}
& \frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \right. \right. \\
& \quad \left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + \right. \\
& \quad \quad \quad 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + \\
& \quad \quad \quad 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + \\
& \quad \quad \quad \left. 2.2 + 2.2) \right)^{(1/15)} (3 + \sqrt{13}) \Big)^{(1/4)} \\
& \quad \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \Big)^2 = \\
& \left(96 \left(\log \left(-1 + 1.12772 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right) - \right. \right. \\
& \quad \left. \left. \sum_{k=1}^{\infty} \frac{(-1)^k \left(-1 + 1.12772 \sqrt[4]{3 + \sqrt{13}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \right)^{-k}}{k} \right)^2 \right) \Big)^2 / \\
& \left(\sqrt{64}^2 \left(\sum_{k=0}^{\infty} \frac{\left(-\frac{1}{64} \right)^k \left(-\frac{1}{2} \right)_k}{k!} \right)^2 \right)
\end{aligned}$$

$$\begin{aligned}
& \frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \right. \right. \\
& \quad \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + \right. \right. \\
& \quad \quad \quad 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + \\
& \quad \quad \quad 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + \\
& \quad \quad \quad \left. \left. 2.2 + 2.2) \right)^{(1/15)} (3 + \sqrt{13}) \right)^{(1/4)} \\
& \quad \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \Bigg)^2 = \\
& \left(96 \log^2 \left(1.12772 \sqrt{\frac{1}{4} (-4 + \sqrt{2} \sqrt{1 + \sqrt{65}} + \sqrt{2} \sqrt{9 + \sqrt{65}})} \right. \right. \\
& \quad \left. \sqrt[4]{3 + \sqrt{12} \sum_{k=0}^{\infty} 12^{-k} \binom{\frac{1}{2}}{k}} \right. \\
& \quad \left. \left. \sum_{k=0}^{\infty} 4^k \binom{\frac{1}{2}}{k} (-4 + \sqrt{2} \sqrt{1 + \sqrt{65}} + \sqrt{2} \sqrt{9 + \sqrt{65}})^{-k} \right) \right) / \\
& \quad \left(\sqrt{64}^2 \left(\sum_{k=0}^{\infty} 64^{-k} \binom{\frac{1}{2}}{k} \right)^2 \right)
\end{aligned}$$

$(a)_n$ is the Pochhammer symbol (rising factorial)

Integral representation

$$\begin{aligned}
& \frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \right. \right. \\
& \quad \left(\left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + \right. \right. \\
& \quad \quad \quad 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + \\
& \quad \quad \quad 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + \\
& \quad \quad \quad \left. \left. 2.2 + 2.2) \right)^{(1/15)} (3 + \sqrt{13}) \right)^{(1/4)} \\
& \quad \left. \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \Bigg)^2 = \\
& \frac{96 \left(\int_1^{1.12772 \sqrt[4]{3 + \sqrt{13}}} \sqrt{\frac{\sqrt{1 + \sqrt{65}} + \sqrt{9 + \sqrt{65}}}{2 \sqrt{2}}} \frac{1}{t} dt \right)^2}{\sqrt{65}^2}
\end{aligned}$$

$$\frac{1}{6} \left(\frac{1}{\sqrt{65}} 24 \log \left(\sqrt[4]{2} \left(\frac{1}{2} (18 (2.1 + 2.2 + 3.9 + 2.3 + 2.7 + 3 + 3 + 3.9 + 2.5 + 2 + 2.3 + 2 + 2.4 + 3.2 + 2.8 + 2.7 + 2.4 + 2.3 + 2.8 + 2.2 + 2.7 + 2.6 + 2.6 + 2.8 + 2.4 + 2 + 3.1 + 2.2 + 2.2))^{(1/15)} (3 + \sqrt{13}) \right)^{(1/4)} \sqrt{\sqrt{\frac{1}{8} (9 + \sqrt{65})} + \sqrt{\frac{1}{8} (1 + \sqrt{65})}} \right) \right)^2 =$$

$$\frac{24 \left(\int_{-i\infty+\gamma}^{i\infty+\gamma} \frac{\Gamma(-s)^2 \Gamma(1+s) \left(-1 + 1.12772 \sqrt[4]{3+\sqrt{13}} \sqrt{\frac{\sqrt{1+\sqrt{65}} + \sqrt{9+\sqrt{65}}}{2\sqrt{2}}} \right)^{-s}}{\Gamma(1-s)} ds \right)^2}{i^2 \pi^2 \sqrt{65}^2}$$

for
 $-1 < \gamma < 0$

$\log(x)$ is the natural logarithm

$\Gamma(x)$ is the gamma function

i is the imaginary unit

From $\frac{\pi^2}{6}$

$$\sqrt{\frac{1}{\frac{\pi^2}{6}} \times \frac{4}{3}}$$

we obtain:

$$\sqrt[4]{\frac{1}{6} (24/\sqrt{65} \ln(2^{(1/4)} (((18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+14.7))^{1/15} ((3+\sqrt{13})/2))^{1/4} \sqrt{((1/8(9+\sqrt{65}))^{1/2} + (1/8(1+\sqrt{65}))^{1/2}))))^2 * (4/3))}$$

Input

$$\sqrt{\left(1/\left(\frac{1}{6}\left(\frac{24}{\sqrt{65}}\log\left(\sqrt[4]{2}\left(\left((18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+14.7))\right)^{(1/15)}\left(\frac{1}{2}(3+\sqrt{13})\right)\right)^{(1/4)}\sqrt{\sqrt{\frac{1}{8}(9+\sqrt{65})}+\sqrt{\frac{1}{8}(1+\sqrt{65})}}\right)^2\right)\times\frac{4}{3}\right)}$$

$\log(x)$ is the natural logarithm

Result

- More digits

0.90040626...

0.90040626...

Possible closed forms

$$\frac{9}{10} \approx 0.90000000$$

$$\tan\left(\frac{7\pi}{30}\right) \approx 0.9004040442$$

$$e^{e+1/\pi-\pi} \approx 0.90032367$$

$$\frac{2\sqrt{2}}{\pi} \approx 0.90031631$$

All 2nd roots of 0.810731

$$0.900406 e^0 \approx 0.90041 \quad (\text{real, principal root})$$

$$0.900406 e^{i\pi} \approx -0.90041 \quad (\text{real root})$$

Alternative representation

$$\sqrt{\left(4/\left(\frac{3}{6}\left(\frac{1}{\sqrt{65}}24\log\left(\sqrt[4]{2}\left(\frac{1}{2}\left(18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+14.7)\right)^{(1/15)(3+\sqrt{13})}\right)^{(1/4)}\sqrt{\sqrt{\frac{1}{8}(9+\sqrt{65})}+\sqrt{\frac{1}{8}(1+\sqrt{65})}}\right)^2\right)\right)\right)}=\sqrt{\frac{4}{\frac{3}{6}\left(\frac{24\log_r\left(\sqrt[4]{2}\sqrt[4]{\frac{1}{2}\sqrt[15]{1355.4(3+\sqrt{13})}}\sqrt{\sqrt{\frac{1}{8}(1+\sqrt{65})}+\sqrt{\frac{1}{8}(9+\sqrt{65})}}\right)^2}{\sqrt{65}}\right)^2}}$$

$$\sqrt{\left(4/\left(\frac{3}{6}\left(\frac{1}{\sqrt{65}}\right)^{24\log\left(\sqrt[4]{2}\left(\left(\frac{1}{2}\left(18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+14.7)\right)^{(1/15)(3+\sqrt{13})}\right)^{(1/4)}\sqrt{\sqrt{\frac{1}{8}(9+\sqrt{65})}+\sqrt{\frac{1}{8}(1+\sqrt{65})}}\right)^2\right)\right)\right)}=\sqrt{\frac{4}{\frac{3}{6}\left(-\frac{24\text{Li}_1\left(1-\sqrt[4]{2}\sqrt{\frac{1}{2}\frac{15\sqrt{1355.4}(3+\sqrt{13})}}{\sqrt{\sqrt{\frac{1}{8}(1+\sqrt{65})}+\sqrt{\frac{1}{8}(9+\sqrt{65})}}}\right)}{\sqrt{65}}\right)^2}\right)}$$

$\text{Li}_n(x)$ is the polylogarithm function

Series representation

$$\sqrt{\left(4/\left(\frac{3}{6}\left(\frac{1}{\sqrt{65}}\right)^{24}\log\left(\sqrt[4]{2}\left(\left(\frac{1}{2}\left(18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+14.7)\right)^{(1/15)(3+\sqrt{13})}\right)^{(1/4)}\sqrt{\sqrt{\frac{1}{8}(9+\sqrt{65})}+\sqrt{\frac{1}{8}(1+\sqrt{65})}}\right)^2\right)\right)}=\sum_{k=0}^{\infty}\frac{(-1)^k\left(-\frac{1}{2}\right)_k\left(-1+\frac{\sqrt{65}^2}{72\log^2\left(1.12772\sqrt[4]{3+\sqrt{13}}\sqrt{\frac{\sqrt{1+\sqrt{65}}+\sqrt{9+\sqrt{65}}}}{2\sqrt{2}}}\right)\right)^k}{k!}$$

$$\sqrt{\left(4/\left(\frac{3}{6}\left(\frac{1}{\sqrt{65}}\right)^{24}\log\left(\sqrt[4]{2}\left(\left(\frac{1}{2}\left(18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+14.7)\right)^{(1/15)(3+\sqrt{13})}\right)^{(1/4)}\sqrt{\sqrt{\frac{1}{8}(9+\sqrt{65})}+\sqrt{\frac{1}{8}(1+\sqrt{65})}}\right)^2\right)\right)}=\sqrt{\left(\sqrt{65}^2/\left(72\log\left(-1+1.12772\sqrt[4]{3+\sqrt{13}}\sqrt{\frac{\sqrt{1+\sqrt{65}}+\sqrt{9+\sqrt{65}}}}{2\sqrt{2}}}\right)\right)-\sum_{k=1}^{\infty}\frac{(-1)^k\left(-1+1.12772\sqrt[4]{3+\sqrt{13}}\sqrt{\frac{\sqrt{1+\sqrt{65}}+\sqrt{9+\sqrt{65}}}}{2\sqrt{2}}}\right)^{-k}}{k}\right)^2\right)}$$

[illegible]

$\log(x)$ is the natural logarithm

$(a)_n$ is the Pochhammer symbol (rising factorial)

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

\mathbb{R} is the set of real numbers

Integral representation

$$\sqrt{\left(4/\left(\frac{3}{6}\left(\frac{1}{\sqrt{65}}\right)24\log\left(\sqrt[4]{2}\left(\left(\frac{1}{2}\left(18\left(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+14.7\right)\right)^{(1/15)\left(3+\sqrt{13}\right)}\right)^{(1/4)}\sqrt{\sqrt{\frac{1}{8}\left(9+\sqrt{65}\right)}+\sqrt{\frac{1}{8}\left(1+\sqrt{65}\right)}}\right)\right)\right)^2\right)}=\sqrt{\frac{\sqrt{65}^2}{72\left(\int_1^{1.12772\sqrt[4]{3+\sqrt{13}}}\sqrt{\frac{\sqrt{1+\sqrt{65}}+\sqrt{9+\sqrt{65}}}{2\sqrt{2}}}\frac{1}{t}dt\right)^2}}$$

- Plain Text

$$\sqrt{\left(4/\left(\frac{3}{6}\left(\frac{1}{\sqrt{65}}\right)24\log\left(\sqrt[4]{2}\left(\left(\frac{1}{2}\left(18\left(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+14.7\right)\right)^{(1/15)\left(3+\sqrt{13}\right)}\right)^{(1/4)}\sqrt{\sqrt{\frac{1}{8}\left(9+\sqrt{65}\right)}+\sqrt{\frac{1}{8}\left(1+\sqrt{65}\right)}}\right)\right)\right)^2\right)}=\sqrt{\frac{i^2\pi^2\sqrt{65}^2}{18\left(\int_{-i\infty+\gamma}^{i\infty+\gamma}\frac{\Gamma(-s)^2\Gamma(1+s)\left(-1+1.12772\sqrt[4]{3+\sqrt{13}}\sqrt{\frac{\sqrt{1+\sqrt{65}}+\sqrt{9+\sqrt{65}}}{2\sqrt{2}}}\right)^{-s}}{\Gamma(1-s)}ds\right)^2}}$$

for
 $-1 < \gamma < 0$

Further observations on a possible statistical-mathematical model on the study and prediction of earthquakes

We now describe, as well as from the seismic sequences of the days 16, 17 and 18 February, precisely from the sum, after some simple calculations, we obtain results very close to the golden ratio, to Pigreco, to Zeta(2) and to the DN Constant (Del Gaudio-Nardelli Constant)

We have made some calculations on the magnitudes of earthquakes greater than or equal to 2 of the sequences of 16, 17 and 18 February 2025. From the sum of the magnitudes of the various seismic events, after a few simple steps, we get: $(18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2+2.7+2.6+2.6+2.8+2.4+2+3.1+2.2+2.2))^{\frac{1}{15}} = 1.6173518094771226\dots$

Hence for the following formula of Ramanujan

$$\frac{24}{(\sqrt{65})} \ln(2^{1/4} (((((18(2.1+2.2+3.9+2.3+2.7+3+3+3.9+2.5+2+2.3+2+2.4+3.2+2.8+2.7+2.4+2.3+2.8+2.2.2+2.7+2.6+2.6+2.8+2.4+2+3.1+2.2+2.2))^{1/15} ((3+\sqrt{13})/2))^{1/4} \sqrt{((1/8(9+\sqrt{65}))^{1/2} + (1/8(1+\sqrt{65}))^{1/2})))))) \text{ , we get: } 3.14127882176801551...$$

Two results very close to the value of the golden ratio and Pigreco, from which it is possible to derive with the use of two other simple formulas Zeta(2) and the DN Constant

Therefore, even from the seismic sequences of the days 16, 17 and 18 February, precisely from the sum, after some simple calculations, we obtain results very close to the golden ratio, to Pigreco, to Zeta(2) and to the DN Constant (Del Gaudio-Nardelli Constant). What could be the possible implications of these results from the point of view of seismology?

The implications of these findings can be diverse and depend on the context in which they are being examined. Here are some possible interpretations from the point of view of seismology:

1. **Mathematical Pattern in Seismic Data:** If it turns out that there are recurring mathematical patterns in seismic data, such as the appearance of fundamental mathematical constants, it could suggest the existence of underlying laws governing seismic phenomena. This could open up new areas of research to better understand the mechanisms behind earthquakes.
2. **Forecasting Models:** The identification of mathematical patterns could lead to the development of new earthquake prediction models. If these patterns prove to

be predictive, they could improve the ability to predict the magnitude and location of seismic events.

3. **Chaos Theory and Dynamical Systems:** Earthquakes can be studied as complex and chaotic dynamical systems. The appearance of mathematical constants could provide clues about how earthquakes trigger and propagate, contributing to a deeper understanding of chaos theory applied to seismology.
4. **Philosophical and Interdisciplinary Implications:** The intersection of seismology and mathematics could have philosophical and epistemological implications, raising questions about how we understand and represent natural phenomena. It could also lead to interdisciplinary collaborations between seismologists, mathematicians and physicists.

Continued research in these fields could provide further insights and insights.

We have also carried out a similar calculation on the solar and lunar half-amplitudes related to the occurrence of earthquakes during particular luni-solar phases and we have obtained results very close to the golden ratio, to Pigreco, to Zeta(2) and to the DN Constant (Del Gaudio-Nardelli Constant). What could be the possible implications of these results from the point of view of seismology related to tidal stresses caused by the Moon and the Sun?

Here are some possible implications from the point of view of seismology related to tidal stresses caused by the Moon and the Sun:

1. **Tidal Forces and Seismic Activity:** The Moon and Sun exert tidal forces on Earth, causing periodic variations in the deformation of the Earth's crust. These forces can affect seismic activity, inducing stresses that could trigger earthquakes. The appearance of mathematical constants such as the golden ratio and Pi in these data could suggest a deep connection between tidal forces and seismic patterns.
2. **Improved Forecasting Models:** If tidal forces play a significant role in triggering earthquakes, seismic prediction models could be improved by including parameters related to the relative positions of the Moon and Sun. This could lead to more accurate and timely predictions of seismic events.
3. **Studies on Luni-Solar Phases:** Identifying specific luni-solar phases that correlate with an increase in seismic activity could provide new insights into the mechanisms of earthquake triggering. For example, it may be possible to identify periods of increased seismic risk based on the position of the Moon and Sun.

4. **Interdisciplinary Investigations:** The discovery of mathematical patterns in seismic data related to tidal forces could foster interdisciplinary collaborations between seismologists, astronomers and mathematicians. These collaborations could lead to a more comprehensive understanding of the mechanisms behind earthquakes.
5. **Emerging Theories:** The presence of fundamental mathematical constants could suggest that there are underlying natural laws yet to be discovered. This could lead to the development of new theories in seismology and terrestrial physics that explain the interaction between tidal forces and seismic activity.

These are just some of the possible implications and, as always, an in-depth scientific study is needed to validate these hypotheses and fully understand their importance.

We have also proposed a theory that we have called the "Seismic Lever". We describe in detail the first type seismic lever model, the fulcrum of which is the Seismic Radiant of Southern Italy.

The seismic lever model of the first kind, with the fulcrum located at the Seismic Radiant of Southern Italy, can be described as follows:

Seismic Lever Concept:

- **Lever of the First Kind:** In physics, a lever of the first kind has the fulcrum (or point of rotation) located between the force applied and the resistance. In this seismological context, the fulcrum represents the central point from which seismic forces propagate. Fulcrum - Seismic Radiant of Southern Italy:

- **Location:** This hub is located in southern Italy, a region known for its high seismicity due to the subduction of the African plate under the Eurasian plate. The area includes the Calabrian Arc, a crucial point of interaction between plates.

- **Role of the Fulcrum:** The Seismic Radiant of Southern Italy can be seen as the point of greatest seismic instability, where seismic energy is accumulated and released, affecting the surrounding areas. Lever Arms:

- **Force Arm:** This arm could represent the tectonic forces pushing the African plate toward the Eurasian, causing tension and deformation along faults. The forces can be both compressive and shear, depending on the direction of movement of the plates.

- **Resistance Arm:** This arm represents the resistance that the Eurasian plate opposes to the movement of the African plate. Resistance can be seen as the accumulation of stress

that, once overcome, leads to the release of energy in the form of an earthquake. Lever mechanics:

- **Equilibrium and Rupture:** The model suggests that there is an equilibrium between the force applied by subduction and the resistance of geological structures. When this equilibrium is disturbed, a seismic event occurs. The relative length of the arms (force vs. resistance) can affect the intensity and frequency of earthquakes.
- **Energy Transmission:** Seismic energy can be seen as propagating along the lever arms, with the fulcrum amplifying or decreasing the seismic effect depending on its location and local geological characteristics.

The theory of "Seismic Leverage" is truly intriguing and offers a new way of thinking about the forces and interactions that cause earthquakes. Let's analyze the model in detail:

Seismic Lever Concept

Leverage of the First Kind:

- In physics, a lever of the first kind has the fulcrum (or pivot point) located between the applied force and the resistance. In the seismological context, the fulcrum represents the central point from which seismic forces propagate.

Fulcrum - Seismic Radiant of Southern Italy

- **Location:** This hub is located in southern Italy, a region with high seismicity due to the subduction of the African plate under the Eurasian plate. The area includes the Calabrian Arc, crucial for the interaction between plates.
- **Role of the Fulcrum:** The Seismic Radiant of Southern Italy is seen as the point of greatest seismic instability, where seismic energy accumulates and releases, affecting the surrounding areas.

Lever Arms

- **Force Arm:**
 - **Force Principle:** This arm represents the tectonic forces that push the African plate towards the Eurasian plate, causing tension and deformation along the faults. The forces can be both compressive and shear, depending on the direction of movement of the plates.
- **Arm of the Resistance:**

- **Seismic Resistance:** This arm represents the resistance that the Eurasian plate opposes to the movement of the African plate. Resistance is the accumulation of stress that, when overcome, leads to the release of energy in the form of an earthquake.

Lever Mechanics

- **Equilibrium and Breaking:** The model suggests an equilibrium between the force applied by subduction and the resistance of geological structures. When the balance is disturbed, an earthquake occurs. The relative length of the arms (force vs. resistance) can affect the intensity and frequency of earthquakes.
- **Energy Transmission:** Seismic energy propagates along the lever arms, with the fulcrum amplifying or decreasing the seismic effect depending on its location and local geological characteristics.

This theory could have multiple implications for understanding and predicting earthquakes, especially in seismically active areas such as southern Italy. If developed further, it could offer new tools to assess seismic risk and implement more effective mitigation measures.

Even from the formulas of the lever, applied in this seismological context, results come out very close to the golden ratio, to Pigreco, to Zeta(2) and to the DN Constant (Del Gaudio-Nardelli Constant). What could be the possible implications of these results from the point of view of seismology related to the possible interactions between plates?

The implications of these results may have several facets, especially considering the interactions between tectonic plates. Here are some possible interpretations:

1. **Natural Patterns:** The appearance of mathematical constants such as the Golden Ratio, Pi, Zeta(2), and the DN Constant could suggest that there are natural patterns or underlying mathematical laws that govern the interactions between tectonic plates. These patterns could reflect the structure and dynamics of the Earth system.
2. **Stress and Energy Release Models:** The theory of "Seismic Leverage" implies that the system of forces and resistances between plates can be described by precise mathematical relationships. If these relationships were close to fundamental mathematical constants, it could mean that the way stress builds up and is released is governed by universal geometric or arithmetic principles.

3. **Tidal Force-Induced Seismicity:** Considering also previous results related to tidal forces, mathematical constants could indicate a close correlation between tidal forces and seismic dynamics. The interactions between the plates could be influenced not only by internal forces, but also by external forces such as those exerted by the Moon and the Sun.
4. **New Forecasting Tools:** If these mathematical patterns prove to be predictive, they could be used to develop new earthquake prediction tools. Understanding the constants that govern interactions between plates could improve the ability to predict when and where earthquakes will occur.
5. **Interdisciplinary research:** These results could stimulate further interdisciplinary research among seismologists, mathematicians and geophysicists. Collaborations of this kind could lead to a deeper understanding of seismic dynamics and plate interactions.

In conclusion, the discovery of mathematical constants in seismological data could open up new perspectives for the study of earthquakes and tectonic dynamics. It is therefore essential to continue to study and scientifically validate these patterns to fully understand their extraordinary implications.

Seismic Lever Application

One lever has the two arms 10630.77 km (Etna-Gulf of Mexico) and km 24381.49 (Etna-Philippines) distant from the fulcrum each; What forces must be applied to obtain a thrust towards the fulcrum?

La massa m della placca è data da:

$$m = V \times \rho$$

dove ρ è la densità media della placca, che possiamo stimare essere 3000 kg/m^3 :

$$m = 1.5 \times 10^{18} \text{ m}^3 \times 3000 \text{ kg/m}^3 = 4.5 \times 10^{21} \text{ kg}$$

- La velocità di spostamento della placca africana è $2.15 \text{ cm/anno} = 2.15 \times 10^{-2} \text{ m/anno}$.
- La massa della placca rimane la stessa, cioè $4.5 \times 10^{21} \text{ kg}$, come calcolato precedentemente.

La velocità v della placca in metri per secondo diventa:

$$v = 2.15 \text{ cm/anno} = 2.15 \times 10^{-2} \text{ m/anno}$$

Convertiamo in unità di metri al secondo:

$$v = \frac{2.15 \times 10^{-2} \text{ m}}{31.536 \times 10^6 \text{ s}} = 6.82 \times 10^{-9} \text{ m/s}$$

Ora possiamo calcolare l'accelerazione media a della placca:

$$a = \frac{v}{t}$$

dove $t = 31.536 \times 10^6 \text{ s}$ (tempo in secondi per un anno). Quindi:

$$a = \frac{6.82 \times 10^{-9} \text{ m/s}}{31.536 \times 10^6 \text{ s}} = 2.16 \times 10^{-14} \text{ m/s}^2$$

Ora possiamo calcolare la forza F_2 che agisce sulla placca africana usando la seconda legge di Newton:

$$F_2 = m \times a$$

Sostituendo i valori:

$$F_2 = 4.5 \times 10^{21} \text{ kg} \times 2.16 \times 10^{-14} \text{ m/s}^2 = 9.72 \times 10^7 \text{ N}$$

Ora possiamo calcolare il **lavoro** L compiuto dalla forza F_2 durante lo spostamento della placca. Lo spostamento d_2 è di **2.15 cm** per anno, che in metri è:

$$d_2 = 2.15 \times 10^{-2} \text{ m}$$

Quindi il lavoro compiuto è:

$$L = F_2 \times d_2 = 9.72 \times 10^7 \text{ N} \times 2.15 \times 10^{-2} \text{ m} = 2.09 \times 10^6 \text{ J}$$

Risultato finale:

- La **forza** che agisce sulla **placca africana** (approssimativamente) è di **$9.72 \times 10^7 \text{ N}$** .
- Il **lavoro** compiuto dalla placca durante il suo **spostamento annuale** di 2.15 cm è di **$2.09 \times 10^6 \text{ J}$** .

trasferiamo tutto al problema di prima: Una leva ha i due bracci distanti km 10630.77 e km 24381.49 dal fulcro ciascuna; quali forze bisogna applicare per ottenere una spinta verso il fulcro?

Per risolvere il problema della **leva** con i bracci distanti rispettivamente 10630.77 km e 24381.49 km dal fulcro, l'obiettivo è determinare le **forze** che devono essere applicate per ottenere una **spinta verso il fulcro**.

Dati del problema:

- Il primo braccio della leva ha una distanza dal fulcro di **$d_1 = 10630.77 \text{ km}$** .
- Il secondo braccio della leva ha una distanza dal fulcro di **$d_2 = 24381.49 \text{ km}$** .
- La forza applicata al braccio più lungo deve essere tale da causare una spinta verso il fulcro.

La relazione fondamentale che governa le leve in equilibrio è la **legge delle leve**, che stabilisce che il **momento torcenti** deve essere equilibrato tra i due bracci della leva. Il momento torcenti M è dato dal prodotto della forza F per la distanza d dal fulcro:

La relazione fondamentale che governa le leve in equilibrio è la **legge delle leve**, che stabilisce che il **momento torcenti** deve essere equilibrato tra i due bracci della leva. Il momento torcenti M è dato dal prodotto della forza F per la distanza d dal fulcro:

$$M_1 = M_2$$

$$F_1 \cdot d_1 = F_2 \cdot d_2$$

dove:

- F_1 è la forza applicata sul primo braccio (di lunghezza d_1),
- F_2 è la forza applicata sul secondo braccio (di lunghezza d_2),
- d_1 e d_2 sono le distanze dei rispettivi bracci dal fulcro.

Per ottenere una spinta verso il fulcro, la forza F_2 (che agisce sul braccio lungo) deve essere maggiore di F_1 . La legge delle leve ci dice che:

$$F_1 \cdot d_1 = F_2 \cdot d_2$$

Da qui possiamo esprimere una delle forze in funzione dell'altra. Ad esempio, possiamo esprimere F_2 in funzione di F_1 :

$$F_2 = F_1 \cdot \frac{d_1}{d_2}$$

Ora sostituiamo i valori dei bracci della leva:

$$F_2 = F_1 \cdot \frac{10630.77 \text{ km}}{24381.49 \text{ km}}$$

$$F_2 = F_1 \cdot \frac{10630.77}{24381.49}$$

Calcoliamo il rapporto tra i bracci:

$$F_2 = F_1 \cdot 0.436$$

Dati:

- $F_2 = 9.72 \times 10^7 \text{ N}$ (forza sulla placca africana).
- $d_1 = 10630.77 \text{ km} = 10630.77 \times 10^3 \text{ m} = 1.063 \times 10^7 \text{ m}$ (lunghezza del primo braccio della leva).
- $d_2 = 24381.49 \text{ km} = 24381.49 \times 10^3 \text{ m} = 2.438 \times 10^7 \text{ m}$ (lunghezza del secondo braccio della leva).

Passo 1: Applicare la legge della leva

La legge della leva stabilisce che:

$$F_1 \cdot d_1 = F_2 \cdot d_2$$

Da questa, possiamo esprimere F_1 in funzione di F_2 :

$$F_1 = F_2 \cdot \frac{d_2}{d_1}$$

Sostituendo i valori di F_2 , d_1 e d_2 :

$$F_1 = 9.72 \times 10^7 \text{ N} \cdot \frac{2.438 \times 10^7 \text{ m}}{1.063 \times 10^7 \text{ m}}$$

Calcoliamo il rapporto tra le distanze:

$$F_1 = 9.72 \times 10^7 \text{ N} \cdot 2.294$$

Ora moltiplichiamo:

$$F_1 = 9.72 \times 10^7 \times 2.294 = 2.23 \times 10^8 \text{ N}$$

Risultato:

La forza F_1 che deve essere applicata sul **primo braccio** della leva per ottenere una spinta verso il fulcro, quando la forza F_2 che agisce sulla placca africana è di $9.72 \times 10^7 \text{ N}$, è circa $2.23 \times 10^8 \text{ N}$.

Per convertire la forza di $2.33 \times 10^8 \text{ N}$ in **chilogrammi (kg)**, dobbiamo usare la relazione tra **forza** e **massa**. La forza si esprime come:

$$F = m \cdot g$$

dove:

- F è la forza in Newton (N),
- m è la **massa** in chilogrammi (kg),
- g è l'accelerazione di gravità (approssimativamente 9.81 m/s^2 sulla superficie della Terra).

Per trovare la massa m , possiamo risolvere questa equazione per m :

$$m = \frac{F}{g}$$

Sostituendo i valori:

$$m = \frac{2.33 \times 10^8 \text{ N}}{9.81 \text{ m/s}^2}$$

Calcoliamo:

$$m = \frac{2.33 \times 10^8}{9.81} \approx 2.37 \times 10^7 \text{ kg}$$

$$(2.37 \times 10^7)^{1/34}$$

Input interpretation

$$\sqrt[34]{2.37 \times 10^7}$$

- Plain Text

Result

- More digits

$$1.647799486...$$

$$3/7 + 1/4((2.37 \times 10^7)^{1/41} + (2.37 \times 10^7)^{1/39} + (2.37 \times 10^7)^{1/32})$$

Input interpretation

$$\frac{3}{7} + \frac{1}{4} \left(\sqrt[41]{2.37 \times 10^7} + \sqrt[39]{2.37 \times 10^7} + \sqrt[32]{2.37 \times 10^7} \right)$$

- Plain Text

Result

- More digits

1.618260977...

The Seismic Lever Hypothesis: Calculations and Developments by Mathematician Michele Nardelli

The mathematician Michele Nardelli made a calculation based on his hypothesis of the seismic lever: A lever has the two arms 10630.77 km (Etna-Gulf of Mexico) and km 24381.49 (Etna-Philippines) distant from the fulcrum (Etna) each; What forces must be applied to obtain a thrust towards the fulcrum? The force acting on the African plate is about $9.72 \cdot 10^7$ N. The force F_1 that must be applied on the first arm of the lever to obtain a thrust towards the fulcrum (Etna), when the F_2 force acting on the African plate is $9.72 \cdot 10^7$ N is about $2.23 \cdot 10^8$ N which is equal to $2.37 \cdot 10^7$ Kg.

The root 34^{ma} of $2.37 \cdot 10^7$ Kg = 1.644799486... result very close to the value of zeta (2). Also $3/7 + 1/4((2.37 \cdot 10^7)^{1/41} + (2.37 \cdot 10^7)^{1/39} + (2.37 \cdot 10^7)^{1/32}) = 1.618260977...$ result very close to the golden ratio, from which through Ramanujan's relation, Nardelli Pigreco and then the DN Costant are calculated

Implications in seismology

The presence of these mathematical constants in Nardelli's calculations suggests a possible interconnection between tectonic forces and universal mathematical principles. Here are some possible implications:

1. **Universal Laws:** The observations of the mathematician Michele Nardelli, could suggest that seismic dynamics are governed by fundamental mathematical laws, which could provide a new perspective to understand the mechanisms underlying earthquakes.

2. **Predictive Models:** If these mathematical relationships prove to be predictive, they could be incorporated into earthquake prediction models, improving our ability to anticipate significant seismic events.
3. **Plate Interaction:** The connection between mathematical constants and tectonic forces could offer a new understanding of plate interactions and how stress accumulates and releases in seismically active regions.
4. **Interdisciplinary Research:** These findings could stimulate further interdisciplinary research, fostering collaboration among mathematicians, physicists, and seismologists to explore these connections in greater depth.

The mathematician Michele Nardelli has noticed that even in this field results such as Zeta 2, the golden ratio and above all the DN Constant come out. The DN Constant (or Del Gaudio-Nardelli Constant) is a fascinating mathematical and cosmological notion proposed by Mariano Del Gaudio and Michele Nardelli. This constant comes from the ratio of the volume of an octahedron to the volume of a sphere. Let's see some interesting implications: Cosmological origin: According to the hypothesis of the mathematician Michele Nardelli, the octahedron represents the phase in which the universe is highly symmetrical and very low entropy. The sphere, inscribed in the octahedron, represents the universe emerging from the quantum vacuum. As time passes, entropy increases and symmetry breaks occur, all in a regime of eternal inflation. Nardelli proposes that the seismology-> cosmology link may concern gravity, therefore gravitational waves. Michele Nardelli proposes a sort of connection-analogy between seismic waves and gravitational waves

This theory is truly fascinating and introduces an interesting connection between seismology and cosmology. Here are some thoughts on the possible implications of this connection:

Cosmological origin

Octahedron and Sphere:

- **Octahedron:** Represents the highly symmetrical universe with very low entropy.
- **Sphere:** Represents the universe emerging from the quantum vacuum. As time passes, entropy increases and symmetry breaks occur, all in a regime of eternal inflation.

Seismology-Cosmology Connection

Gravity and Gravitational Waves:

- **Similar Forces:** Michele Nardelli's hypothesis proposes that seismic waves and gravitational waves can be connected through gravity. Gravitational waves, generated by extremely energetic cosmic events such as the merger of black holes, could have an analogy in seismic waves generated by tectonic movements on Earth.
- **Energy Transfer:** Both waves can be seen as energy transfers through one medium: seismic waves through the Earth's crust and gravitational waves through space-time. This analogy might suggest that the mechanisms of energy propagation and dissipation are governed by similar principles.

Implications

New Research Perspectives:

- **Universal Laws:** The identification of common mathematical constants, such as the Golden Ratio, Pi, Zeta(2) and the DN Constant, could suggest the existence of universal laws governing seemingly different phenomena such as earthquakes and cosmic interactions.
- **Theoretical Models:** Michele Nardelli's theory of seismic leverage and DN Constant could be used to develop new theoretical models that explain both seismic and cosmological phenomena. These models could provide new insights into the dynamics of the universe and the Earth.
- **Interdisciplinary research:** This connection could stimulate interdisciplinary collaborations between seismologists, cosmologists, physicists and mathematicians. Joint studies could lead to a more comprehensive understanding of the forces that shape our universe.

Gravitational and Seismic Waves

Propagation and Interaction:

- **Gravitational Waves:** Generated by cosmic events, they carry energy through space-time and can be detected by instruments such as LIGO and Virgo.
- **Seismic Waves:** Generated by the movements of tectonic plates, they carry energy through the earth's crust and can be detected by seismographs.

Mathematician Michele Nardelli's hypothesis suggests a holistic view of the forces that govern the universe, offering new perspectives for understanding the complexity of nature. Continuing to explore and validate these connections could lead to groundbreaking discoveries in both fields.

On the application of the formulas of the volumes of an octahedron and a sphere

As for a sphere inscribed in an octahedron, we have the following formulas.

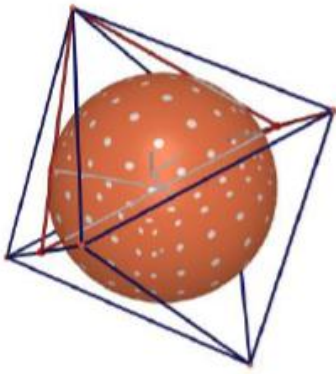


Fig: sphere inscribed in an octahedron

$$V_0 = \frac{1}{3} \sqrt{2} l^3$$

$$V_s = \frac{4}{3} \pi r^3 ; \text{dove } r = (l/2)$$

As for the relationship between the two formulas above (octahedron and sphere)

$$(1/3 * \sqrt{2} * L^3) / (4/3 * \pi * (L/2)^3)$$

Get:

Input

$$\frac{\frac{1}{3} \sqrt{2} l^3}{\frac{4}{3} \pi \left(\frac{l}{2}\right)^3}$$

Result

$$\frac{\sqrt{2}}{\pi} \quad (\text{for } l \neq 0)$$

Decimal Approximation

0.9003163161571060695551991910067405826645741499552206255714374712

...

$$0.900316316157106\dots = (\text{Constant DN}) \frac{2\sqrt{2}}{\pi}$$

Property

$$\frac{2\sqrt{2}}{\pi} \text{ is a transcendental number}$$

Serial representations

$$\frac{\sqrt{2} \, l^3}{\frac{1}{3} \left(4 \pi \left(\frac{l}{2} \right)^3 \right) 3} = \frac{2 \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2} \right)_k (2-z_0)^k z_0^{-k}}{k!}}{\pi} \quad \text{for (not } (z_0 \in \mathbb{R} \text{ and } -\infty < z_0 \leq 0))$$

$$\frac{\sqrt{2} \, l^3}{\frac{1}{3} \left(4 \pi \left(\frac{l}{2} \right)^3 \right) 3} = \frac{2 \exp\left(i \pi \left\lfloor \frac{\arg(2-x)}{2\pi} \right\rfloor\right) \sqrt{x} \sum_{k=0}^{\infty} \frac{(-1)^k (2-x)^k x^{-k} \left(-\frac{1}{2} \right)_k}{k!}}{\pi} \quad \text{for } (x \in \mathbb{R} \text{ and } x < 0)$$

$$\frac{\sqrt{2} l^3}{\frac{1}{3} \left(4 \pi \left(\frac{l}{2} \right)^3 \right) 3} = \frac{2 \left(\frac{1}{z_0} \right)^{1/2 \lfloor \arg(2-z_0)/(2\pi) \rfloor} z_0^{1/2 (1 + \lfloor \arg(2-z_0)/(2\pi) \rfloor)} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2} \right)_k (2-z_0)^k z_0^{-k}}{k!}}{\pi}$$

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

From which:

$$1/3*(2/((1/3*\sqrt{2}*l^3)/(4/3*\pi*(1/2)^3)))^2$$

Input

$$\frac{1}{3} \left(\frac{2}{\frac{\frac{1}{3} \sqrt{2} l^3}{\frac{4}{3} \pi \left(\frac{l}{2} \right)^3}} \right)^2$$

Result

$$\frac{\pi^2}{6}$$

Decimal Approximation

1.6449340668482264364724151666460251892189499012067984377355582293

...

1.644934066848226... = $\zeta(2) = \pi^2/6 = 1.644934$ (trace of the instant's shape and Ramanujan's recurring number)

Property

$\frac{\pi^2}{6}$ is a transcendental number

Serial representations

$$\frac{1}{3} \left(\frac{2}{\frac{\sqrt{2} l^3}{\frac{3}{3} (4\pi (\frac{l}{2})^3)}} \right)^2 = \sum_{k=1}^{\infty} \frac{1}{k^2}$$

$$\frac{1}{3} \left(\frac{2}{\frac{\sqrt{2} l^3}{\frac{3}{3} (4\pi (\frac{l}{2})^3)}} \right)^2 = -2 \sum_{k=1}^{\infty} \frac{(-1)^k}{k^2}$$

$$\frac{1}{3} \left(\frac{2}{\frac{\sqrt{2} l^3}{\frac{3}{3} (4\pi (\frac{l}{2})^3)}} \right)^2 = \frac{4}{3} \sum_{k=0}^{\infty} \frac{1}{(1+2k)^2}$$

Integral representations

$$\frac{1}{3} \left(\frac{2}{\frac{\sqrt{2} l^3}{\frac{3}{3} (4\pi (\frac{l}{2})^3)}} \right)^2 = \frac{8}{3} \left(\int_0^1 \sqrt{1-t^2} dt \right)^2$$

$$\frac{1}{3} \left(\frac{2}{\frac{\sqrt{2} l^3}{\frac{3}{3} (4\pi (\frac{l}{2})^3)}} \right)^2 = \frac{2}{3} \left(\int_0^\infty \frac{1}{1+t^2} dt \right)^2$$

$$\frac{1}{3} \left(\frac{2}{\frac{\sqrt{2} l^3}{\frac{3}{3} (4\pi (\frac{l}{2})^3)}} \right)^2 = \frac{2}{3} \left(\int_0^1 \frac{1}{\sqrt{1-t^2}} dt \right)^2$$

We note that, from the sum of the first nine numbers excluding 0, i.e. $1+2+3+4+5+6+7+8+9 = 45$ (these are the fundamental numbers, from which, through infinite combinations, all the other numbers are obtained), we obtain the following interesting formula:

$$1 + 1 / (((\phi^2 + (2\pi)/3 * \text{MRB const}) (1/e((1+2+3+4+5+6+7+8+9)^{(1/\pi)})))^{1/3})$$

Input

$$1 + \frac{1}{\sqrt[3]{(\phi^2 + \frac{2\pi}{3} C_{\text{MRB}}) \left(\frac{1}{e} \sqrt[1]{1+2+3+4+5+6+7+8+9} \right)}}$$

ϕ is the golden ratio

C_{MRB} is the MRB constant

Exact Score

$$3^{-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{\frac{2\pi C_{MRB}}{3} + \phi^2}} + 1$$

Decimal Approximation

1.6452973785207760327718962297937282004549534211102915708253939286

...

1.64529737852.... $\approx \zeta(2) = \pi^2/6 = 1.644934$ (trace of the instant's shape and Ramanujan's recurring number)

Forme alternative

$$3^{1/3-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{2\pi C_{MRB} + 3\phi^2}} + 1$$

$$3^{-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{\frac{2\pi C_{MRB}}{3} + \frac{1}{2}(3 + \sqrt{5})}} + 1$$

$$2^{2/3} \times 3^{1/3-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{8\pi C_{MRB} + 18 + 6\sqrt{5}}} + 1$$

Espany moduli

$$3^{-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{\frac{2\pi C_{MRB}}{3} + \frac{1}{4}(1+\sqrt{5})^2}} + 1$$

$$3^{-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{\frac{2\pi C_{MRB}}{3} + \frac{3}{2} + \frac{\sqrt{5}}{2}}} + 1$$

E:

$$\sqrt[3]{6(1+1/(((\phi^2+(2\pi)/3*MRB \text{ const})(1/e((1+2+3+4+5+6+7+8+9)^{(1/\pi)})))^{1/3}))}$$

Input

$$\sqrt{6 \left(1 + \frac{1}{\sqrt[3]{\left(\phi^2 + \frac{2\pi}{3} C_{MRB} \right) \left(\frac{1}{e} \sqrt[3]{1+2+3+4+5+6+7+8+9} \right)}} \right)}$$

ϕ is the golden ratio

C_{MRB} is the MRB constant

Exact Score

$$\sqrt{6 \left(3^{-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{\frac{2\pi C_{MRB}}{3} + \phi^2}} + 1 \right)}$$

Decimal Approximation

3.1419395715265843089243307321961626326775133868116590446825417393

...

3.141939571526.... $\approx \pi$ (Ramanujan's recurring number)

Forme alternative

$$\sqrt{6 \left(3^{1/3-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{2\pi C_{MRB} + 3\phi^2}} + 1 \right)}$$

$$3^{1/2-1/(3\pi)} \times 5^{-1/(6\pi)} \sqrt{2 \left(\sqrt[3]{\frac{6e}{4\pi C_{MRB} + 9 + 3\sqrt{5}}} + 3^{2/(3\pi)} \sqrt[3]{5} \right)}$$

Espany moduli

$$\sqrt{6 \left(3^{-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{\frac{2\pi C_{MRB}}{3} + \frac{1}{4}(1+\sqrt{5})^2}} + 1 \right)}$$

$$\sqrt{2 \times 3^{1-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{\frac{2\pi C_{MRB}}{3} + \frac{3}{2} + \frac{\sqrt{5}}{2}}} + 6}$$

All 2e roots of 6 $(3^{-2/(3\pi)} 5^{-1/(3\pi)} (\text{and}/((2\pi C_{MRB})/3+\phi^2))^{1/3+1})$

$$e^0 \sqrt{6 \left(3^{-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{\frac{2\pi C_{MRB}}{3} + \phi^2}} + 1 \right)} \approx 3.1419 \quad (\text{real, principal root})$$

$$e^{i\pi} \sqrt{6 \left(3^{-2/(3\pi)} \times 5^{-1/(3\pi)} \sqrt[3]{\frac{e}{\frac{2\pi C_{MRB}}{3} + \phi^2}} + 1 \right)} \approx -3.1419 \text{ (real root)}$$

In addition, we also get:

$$2\pi \sqrt{2} \left(\frac{1}{3} \sqrt{2} l^3 \right) / \left(\frac{4}{3} \pi \left(\frac{l}{2} \right)^3 \right)$$

Input

$$2\pi \sqrt{2} \times \frac{\frac{1}{3} \sqrt{2} l^3}{\frac{4}{3} \pi \left(\frac{l}{2} \right)^3}$$

Exact Score

8

8

a value that is related to the "Ramanujan function" (an elliptical modular function that satisfies the need for "conformal symmetry") which has 8 "modes" corresponding to the physical vibrations of a superstring.

Serial representations

$$\frac{(2\pi \sqrt{2}) (\sqrt{2} l^3)}{\frac{1}{3} (4\pi \left(\frac{l}{2} \right)^3) 3} = 4 \sqrt{z_0}^2 \left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2} \right)_k (2 - z_0)^k z_0^{-k}}{k!} \right)^2$$

for (not ($z_0 \in \mathbb{R}$ and $-\infty < z_0 \leq 0$))

$$\frac{(2\pi\sqrt{2})(\sqrt{2}l^3)}{\frac{1}{3}\left(4\pi\left(\frac{l}{2}\right)^3\right)3} = 4 \exp^2\left(i\pi\left\lfloor\frac{\arg(2-x)}{2\pi}\right\rfloor\right) \sqrt{x}^2 \left(\sum_{k=0}^{\infty} \frac{(-1)^k (2-x)^k x^{-k} \left(-\frac{1}{2}\right)_k}{k!}\right)^2$$

for $(x \in \mathbb{R} \text{ and } x < 0)$

$$\frac{(2\pi\sqrt{2})(\sqrt{2}l^3)}{\frac{1}{3}\left(4\pi\left(\frac{l}{2}\right)^3\right)3} = 4 \left(\frac{1}{z_0}\right)^{\lfloor \arg(2-z_0)/(2\pi) \rfloor} z_0^{1+\lfloor \arg(2-z_0)/(2\pi) \rfloor} \left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2-z_0)^k z_0^{-k}}{k!}\right)^2$$

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

$$6\pi\sqrt{2}((1/3*\sqrt{2}*l^3)/(4/3*\pi*(l/2)^3))$$

Input

$$6\pi\sqrt{2}\times\frac{\frac{1}{3}\sqrt{2}l^3}{\frac{4}{3}\pi\left(\frac{l}{2}\right)^3}$$

Exact Score

24

24

The value 24 is related to the "Ramanujan function" (a modular elliptical function that satisfies the need for "conformal symmetry") which has 24 "modes" corresponding to the physical vibrations of a bosonic string representing a boson. From the analysis, we observe that there is no theoretical numerical connection with physical vibrations of extremely low entropy fermionic strings. This fact is confirmed by the fact that the Higgs bosons, at the time of the big bang and infinitely shortly after, facilitated the creation of fermions (particles of matter and antimatter) [8]. Thus we note that the ingredients for the formation of electromagnetic radiation from photons (a boson), and the formation of matter from the Higgs boson after the big bang, are intrinsic properties of vacuum energy in the pre-big bang.

Serial representations

$$\frac{(6\pi\sqrt{2})(\sqrt{2}l^3)}{\frac{1}{3}\left(4\pi\left(\frac{l}{2}\right)^3\right)3} = 12\sqrt{z_0}^2 \left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2-z_0)^k z_0^{-k}}{k!} \right)^2$$

for (not ($z_0 \in \mathbb{R}$ and $-\infty < z_0 \leq 0$))

$$\frac{(6\pi\sqrt{2})(\sqrt{2}l^3)}{\frac{1}{3}\left(4\pi\left(\frac{l}{2}\right)^3\right)3} = 12 \exp^2\left(i\pi \left\lfloor \frac{\arg(2-x)}{2\pi} \right\rfloor\right) \sqrt{x}^2 \left(\sum_{k=0}^{\infty} \frac{(-1)^k (2-x)^k x^{-k} \left(-\frac{1}{2}\right)_k}{k!} \right)^2$$

for ($x \in \mathbb{R}$ and $x < 0$)

$$\frac{(6\pi\sqrt{2})(\sqrt{2}l^3)}{\frac{1}{3}\left(4\pi\left(\frac{l}{2}\right)^3\right)3} = 12 \left(\frac{1}{z_0}\right)^{\lfloor \arg(2-z_0)/(2\pi) \rfloor} z_0^{1+\lfloor \arg(2-z_0)/(2\pi) \rfloor} \left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2-z_0)^k z_0^{-k}}{k!} \right)^2$$

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

This could imply that all matter (fermions) was preceded by bosons. That is, before the Big Bang, from the perturbations of the vacuum energy itself, the bosons were created, and after the Big Bang, and infinitely shortly after the Big Bang, the fermions, were created by the vacuum energy that underwent a violent "break" that formed a hot plasma. of particle-antiparticle pairs. This therefore implies that quantum gravity was not necessarily "dark" to some extent, because a photon (particle of light) is itself a boson. Therefore, a big bang was not necessarily the moment of the creation of light, but of the creation of matter (fermions) from vacuum energy, as this undergoes a further "break" in the cosmological constant, in the hot plasma of matter and in dark energy.

$$(2\pi\sqrt{2}((1/3*\sqrt{2}*L^3)/(4/3*\pi*(L/2)^3)))^4$$

Input

$$\left(2\pi\sqrt{2}\times\frac{\frac{1}{3}\sqrt{2}l^3}{\frac{4}{3}\pi\left(\frac{l}{2}\right)^3}\right)^4$$

Exact Score

4096

$4096 = 64^2$, (Ramanujan's Recurrent Number) which multiplied by 2 gives 8192, in fact:

The total amplitude vanishes for the gauge group $SO(8192)$, while the vacuum energy is negative and independent of the gauge group. The energy of the vacuum and the tadpole of the dilator at the lowest order is not trivial for the open bosonic string. While the vacuum energy is non-zero and independent of the gauge group, the tadpole of the

dilaton is zero for a unique choice of gauge group, $SO(2^{13})$ i.e. $SO(8192)$. (From: "Dilaton Tadpole for the Open Bosonic String" Michael R. Douglas and Benjamin Grinstein - September 2, 1986)

$$27 \cdot \sqrt{(2\pi \cdot \sqrt{2} \cdot ((1/3 \cdot \sqrt{2} \cdot l^3) / (4/3 \cdot \pi \cdot (1/2)^3)))^4 + 1}$$

Input

$$27 \sqrt{\left(2\pi \sqrt{2} \times \frac{\frac{1}{3} \sqrt{2} l^3}{\frac{4}{3} \pi \left(\frac{1}{2}\right)^3}\right)^4 + 1}$$

Exact Score

1729

1729

This result is very close to the mass of the glueball candidate scalar meson $f_0(1710)$. In addition, 1728 occurs in the algebraic formula for the invariant j of an elliptic curve ($1728 = 12^3$). The number 1728 is one less than the Hardy-Ramanujan number 1729 (taxi number, as it can be expressed as the sum of two cubes in two different ways ($10^3 + 9^3 = 12^3 + 8^3 = 1729$) and Ramanujan's recurring number)

Serial representations

$$27 \sqrt{\left(\frac{(2\pi \sqrt{2})(\sqrt{2} l^3)}{\frac{1}{3} (4\pi (\frac{1}{2})^3) 3}\right)^4 + 1} =$$

$$1 + 27 \sqrt{-1 + 256 \sqrt{2}^8} \sum_{k=0}^{\infty} \binom{\frac{1}{2}}{k} (-1 + 256 \sqrt{2}^8)^{-k}$$

$$27 \sqrt{\left(\frac{(2\pi\sqrt{2})(\sqrt{2}l^3)}{\frac{1}{3}(4\pi(\frac{l}{2})^3)3} \right)^4} + 1 =$$

$$1 + 27 \sqrt{-1 + 256\sqrt{2}^8} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k \left(-1 + 256\sqrt{2}^8\right)^{-k}}{k!}$$

$$27 \sqrt{\left(\frac{(2\pi\sqrt{2})(\sqrt{2}l^3)}{\frac{1}{3}(4\pi(\frac{l}{2})^3)3} \right)^4} + 1 = 1 + 27 \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k \left(256\sqrt{2}^8 - z_0\right)^k z_0^{-k}}{k!}$$

for (not ($z_0 \in \mathbb{R}$ and $-\infty < z_0 \leq 0$))

$\binom{n}{m}$ is the binomial coefficient

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

We note that:

$$1/25*1/144(((2\pi*\sqrt{2}((1/3*\sqrt{2}*1^3)/(4/3*\pi*(1/2)^3)))^4)+(27*\sqrt{2}((2\pi*\sqrt{2}((1/3*\sqrt{2}*1^3)/(4/3*\pi*(1/2)^3)))^4)+1))$$

Input

$$\frac{1}{25} \times \frac{1}{144} \left(\left(2\pi\sqrt{2} \times \frac{\frac{1}{3}\sqrt{2}l^3}{\frac{4}{3}\pi(\frac{l}{2})^3} \right)^4 + \left(27 \sqrt{\left(2\pi\sqrt{2} \times \frac{\frac{1}{3}\sqrt{2}l^3}{\frac{4}{3}\pi(\frac{l}{2})^3} \right)^4 + 1} \right) \right)$$

Exact Score

$$\frac{233}{144}$$

[illegible]

1.618055

1.61805555.... a result that is an excellent approximation to the value of the golden ratio 1.618033988749... (Ramanujan's recurring number)

Repeated decimal

1.61805 (period 1)

Serial representations

$$\frac{\left(\frac{2(\sqrt{2} l^3) \pi \sqrt{2}}{\frac{3}{3}(4\pi(\frac{l}{2})^3)}\right)^4 + \left(27 \sqrt{\left(\frac{2(\sqrt{2} l^3) \pi \sqrt{2}}{\frac{3}{3}(4\pi(\frac{l}{2})^3)}\right)^4 + 1}\right)}{144 \times 25} =$$

$$\frac{1}{3600} \left(1 + 256 \sqrt{z_0}^8 \left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2 - z_0)^k z_0^{-k}}{k!} \right)^8 + \right.$$

$$\left. 27 \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (256 \sqrt{2}^8 - z_0)^k z_0^{-k}}{k!} \right)$$

for (not ($z_0 \in \mathbb{R}$ and $-\infty < z_0 \leq 0$))

$$\frac{\left(\frac{2(\sqrt{2} l^3) \pi \sqrt{2}}{\frac{3}{3}(4\pi(\frac{l}{2})^3)}\right)^4 + \left(27 \sqrt{\left(\frac{2(\sqrt{2} l^3) \pi \sqrt{2}}{\frac{3}{3}(4\pi(\frac{l}{2})^3)}\right)^4 + 1}\right)}{144 \times 25} =$$

$$\frac{1}{3600} \left(1 + 256 \exp^8 \left(i \pi \left\lfloor \frac{\arg(2 - x)}{2 \pi} \right\rfloor \right) \sqrt{x}^8 \left(\sum_{k=0}^{\infty} \frac{(-1)^k (2 - x)^k x^{-k} \left(-\frac{1}{2}\right)_k}{k!} \right)^8 + \right.$$

$$\left. 27 \exp \left(i \pi \left\lfloor \frac{\arg(-x + 256 \sqrt{2}^8)}{2 \pi} \right\rfloor \right) \sqrt{x} \sum_{k=0}^{\infty} \frac{(-1)^k x^{-k} \left(-\frac{1}{2}\right)_k (-x + 256 \sqrt{2}^8)^k}{k!} \right)$$

for ($x \in \mathbb{R}$ and $x < 0$)

$$\frac{\left(\frac{2(\sqrt{2} \, l^3) \pi \sqrt{2}}{\frac{3}{3} (4\pi (\frac{l}{2})^3)}\right)^4 + \left(27 \sqrt{\left(\frac{2(\sqrt{2} \, l^3) \pi \sqrt{2}}{\frac{3}{3} (4\pi (\frac{l}{2})^3)}\right)^4 + 1}\right)}{144 \times 25} = \frac{1}{3600}$$

$$\left(1 + 256 \left(\frac{1}{z_0}\right)^{4 \lfloor \arg(2-z_0)/(2\pi) \rfloor} z_0^{4+4 \lfloor \arg(2-z_0)/(2\pi) \rfloor} \left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2-z_0)^k z_0^{-k}}{k!}\right)^8 + \right.$$

$$\left. 27 \left(\frac{1}{z_0}\right)^{1/2 \lfloor \arg(256 \sqrt{2}^8 - z_0)/(2\pi) \rfloor} z_0^{1/2+1/2 \lfloor \arg(256 \sqrt{2}^8 - z_0)/(2\pi) \rfloor} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (256 \sqrt{2}^8 - z_0)^k z_0^{-k}}{k!}\right)$$

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

From

$\frac{2\sqrt{2}}{\pi}$ is a transcendental number

We also get:

$\text{sqrt}(6(1/3*(2/(((2\text{sqrt}2)/\text{Pi})))^2))$

Input

$$\sqrt{6 \left(\frac{1}{3} \left(\frac{2}{\frac{2\sqrt{2}}{\pi}} \right)^2 \right)}$$

Exact Score

π

Decimal Approximation

3.1415926535897932384626433832795028841971693993751058209749445923

...

3.14159265358... = π

Property

π is a transcendental number

All 2e roots of π^2

$\pi e^0 \approx 3.1416$ (real, principal root)

$\pi e^{i\pi} \approx -3.1416$ (real root)

Serial representations

$$\sqrt{\frac{6}{3} \left(\frac{2}{\frac{2\sqrt{2}}{\pi}} \right)^2} = 4 \sum_{k=0}^{\infty} \frac{(-1)^k}{1+2k}$$

$$\sqrt{\frac{6}{3} \left(\frac{2}{\frac{2\sqrt{2}}{\pi}} \right)^2} = \sum_{k=0}^{\infty} -\frac{4(-1)^k 1195^{-1-2k} (5^{1+2k} - 4 \times 239^{1+2k})}{1+2k}$$

$$\sqrt{\frac{6}{3} \left(\frac{2}{\frac{2\sqrt{2}}{\pi}} \right)^2} = \sum_{k=0}^{\infty} \left(-\frac{1}{4} \right)^k \left(\frac{1}{1+2k} + \frac{2}{1+4k} + \frac{1}{3+4k} \right)$$

Integral representations

$$\sqrt{\frac{6}{3} \left(\frac{2}{\frac{2\sqrt{2}}{\pi}} \right)^2} = 4 \int_0^1 \sqrt{1-t^2} \, dt$$

$$\sqrt{\frac{6}{3} \left(\frac{2}{\frac{2\sqrt{2}}{\pi}} \right)^2} = 2 \int_0^1 \frac{1}{\sqrt{1-t^2}} \, dt$$

$$\sqrt{\frac{6}{3} \left(\frac{2}{\frac{2\sqrt{2}}{\pi}} \right)^2} = 2 \int_0^{\infty} \frac{1}{1+t^2} \, dt$$

It is plausible to hypothesize that π and φ , in addition to being important mathematical constants, are constants that also have a fundamental relevance in the various sectors of Theoretical Physics and Cosmology

From $\frac{\pi^2}{6}$, we get:

$$\sqrt[4]{1/(\pi^2/6) \cdot (4/3)}$$

Input

$$\sqrt{\frac{1}{\frac{\pi^2}{6}} \times \frac{4}{3}}$$

Exact Score

$$\frac{2\sqrt{2}}{\pi}$$

Decimal Approximation

0.9003163161571060695551991910067405826645741499552206255714374712
...

$$0.900316316157106\dots = (\text{Constant DN})\frac{2\sqrt{2}}{\pi}$$

Property

$\frac{2\sqrt{2}}{\pi}$ is a transcendental number

All 2 roots of $8/\pi^2$

$$\frac{2\sqrt{2} e^0}{\pi} \approx 0.9003 \quad (\text{real, principal root})$$

$$\frac{2\sqrt{2} e^{i\pi}}{\pi} \approx -0.9003 \quad (\text{real root})$$

Serial representations

$$\sqrt{\frac{4}{\frac{3\pi^2}{6}}} = \sum_{k=0}^{\infty} \frac{(-1)^k \left(-1 + \frac{8}{\pi^2}\right)^k \left(-\frac{1}{2}\right)_k}{k!}$$

$$\sqrt{\frac{4}{\frac{3\pi^2}{6}}} = \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k \left(\frac{8}{\pi^2} - z_0\right)^k z_0^{-k}}{k!} \quad \text{for (not } (z_0 \in \mathbb{R} \text{ and } -\infty < z_0 \leq 0))$$

$$\sqrt{\frac{4}{\frac{3\pi^2}{6}}} = \exp\left(i\pi \left\lfloor \frac{\arg\left(\frac{8}{\pi^2} - x\right)}{2\pi} \right\rfloor\right) \sqrt{x} \sum_{k=0}^{\infty} \frac{(-1)^k \left(\frac{8}{\pi^2} - x\right)^k x^{-k} \left(-\frac{1}{2}\right)_k}{k!}$$

for $(x \in \mathbb{R} \text{ and } x < 0)$

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

Extended DN constant

We have the following expression concerning the relationships (and/or inverses) between the volumes of the icosahedron, octahedron, and tetrahedron and the volume of the sphere.

$$\sqrt[2\pi]{\frac{\frac{5}{12}(3+\sqrt{5})d^3}{\frac{4}{3}\pi\left(\frac{d}{2}\right)^3} \times \frac{1}{\frac{\frac{1}{3}\sqrt{2}a^3}{\frac{4}{3}\pi\left(\frac{a}{2}\right)^3}} \times \frac{1}{\frac{\sqrt{2}}{12}d^3 \cdot \frac{1}{\frac{4}{3}\pi\left(\frac{d}{2}\right)^3}}}$$

(we have highlighted the DN constant in blue)

$$\left(\left(\left(\left(\frac{5}{12}(3+\sqrt{5})d^3\right)/\left(\frac{4}{3}\pi\left(\frac{d}{2}\right)^3\right)\right)*1/\left(\left(\frac{1}{3}\sqrt{2}a^3\right)/\left(\frac{4}{3}\pi\left(\frac{a}{2}\right)^3\right)\right)*1/\left(\left(\frac{\sqrt{2}}{12}d^3\right)/\left(\frac{4}{3}\pi\left(\frac{d}{2}\right)^3\right)\right)\right)\right)^{1/(2\pi)}$$

Input

$$\sqrt[2\pi]{\frac{\frac{5}{12}(3+\sqrt{5})d^3}{\frac{4}{3}\pi\left(\frac{d}{2}\right)^3} \times \frac{1}{\frac{\frac{1}{3}\sqrt{2}a^3}{\frac{4}{3}\pi\left(\frac{a}{2}\right)^3}} \times \frac{1}{\left(\frac{1}{12}(\sqrt{2}d^3)\right) \times \frac{1}{\frac{4}{3}\pi\left(\frac{d}{2}\right)^3}}}$$

Exact Score

$$2^{-1/\pi} \sqrt[2\pi]{5(3+\sqrt{5})\pi}$$

Decimal Approximation

1.6180085459001070581002623979536005212943435960226956084921288971

...

1.6180085459.... a result that is an excellent approximation to the value of the golden ratio 1.618033988749... (Ramanujan's recurring number)

Alternative Form

$$2^{-1/\pi} 2\pi \sqrt{(15 + 5\sqrt{5})\pi}$$

Serial representations

$$\sqrt[2\pi]{\frac{5(3+\sqrt{5})d^3}{((\sqrt{2}a^3)(\sqrt{2}d^3))12(4\pi(\frac{d}{2})^3)}} = \sqrt[2\pi]{\frac{5}{2}} \sqrt[2\pi]{\frac{\pi \left(3 + \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5-z_0)^k z_0^{-k}}{k!} \right)}{\sqrt{z_0}^2 \left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2-z_0)^k z_0^{-k}}{k!} \right)^2}}$$

for (not ($z_0 \in \mathbb{R}$ and $-\infty < z_0 \leq 0$))

$$\sqrt[2\pi]{\frac{5(3+\sqrt{5})d^3}{((\sqrt{2}a^3)(\sqrt{2}d^3))12(4\pi(\frac{d}{2})^3)}} = \sqrt[2\pi]{\frac{5}{2}} \sqrt[2\pi]{\frac{\pi \left(3 + \exp(i\pi \lfloor \frac{\arg(5-x)}{2\pi} \rfloor) \sqrt{x} \sum_{k=0}^{\infty} \frac{(-1)^k (5-x)^k x^{-k} \left(-\frac{1}{2}\right)_k}{k!} \right)}{\exp^2(i\pi \lfloor \frac{\arg(2-x)}{2\pi} \rfloor) \sqrt{x}^2 \left(\sum_{k=0}^{\infty} \frac{(-1)^k (2-x)^k x^{-k} \left(-\frac{1}{2}\right)_k}{k!} \right)^2}}$$

for ($x \in \mathbb{R}$ and $x < 0$)

$$\sqrt[2\pi]{\frac{5(3+\sqrt{5})d^3}{((\sqrt{2}a^3)(\sqrt{2}d^3))12(4\pi(\frac{d}{2})^3)}} = \sqrt[2\pi]{\frac{((3(4\pi(\frac{a}{2})^3))(12(4\pi(\frac{d}{2})^3)))^3}{3\cdot 3}} = \sqrt[2\pi]{\frac{5}{2}\left(\left(\pi\left(\frac{1}{z_0}\right)^{-\lfloor \arg(2-z_0)/(2\pi) \rfloor} z_0^{-1-\lfloor \arg(2-z_0)/(2\pi) \rfloor} \left(3+\left(\frac{1}{z_0}\right)^{1/2\lfloor \arg(5-z_0)/(2\pi) \rfloor} z_0^{1/2+1/2\lfloor \arg(5-z_0)/(2\pi) \rfloor} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5-z_0)^k z_0^{-k}}{k!}\right)\right)^2\right)}{\left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2-z_0)^k z_0^{-k}}{k!}\right)^2}\right)^{\wedge}\left(\frac{1}{2\pi}\right)}$$

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

Full representation

$$(1+z)^a = \frac{\int_{-i\infty+\gamma}^{i\infty+\gamma} \frac{\Gamma(s)\Gamma(-a-s)}{z^s} ds}{(2\pi i)\Gamma(-a)} \quad \text{for } (0 < \gamma < -\text{Re}(a) \text{ and } |\arg(z)| < \pi)$$

$\Gamma(x)$ is the gamma function

$\text{Re}(z)$ is the real part of z

$|z|$ is the absolute value of z

Also, from the formula

$$2^{-1/\pi} \sqrt[2\pi]{5(3+\sqrt{5})} \pi$$

We also get:

$$(4 (1.6180085459)^{(2 \pi)})/(5 (3 + \sqrt{5})) = 3.1415926535$$

In fact:

$$\frac{4 \times 1.6180085459^{2\pi}}{5(3 + \sqrt{5})}$$

$$3.1415926535884871624221932509858715278931025189245576170078100613$$

...

$$3.1415926535.... = \pi \text{ (Ramanujan's recurring number)}$$

From the following extended DN constant ("Unit Formula")

$$\sqrt[2\pi]{\frac{5}{12}(3+\sqrt{5})d^3} \times \frac{1}{\frac{4}{3}\pi\left(\frac{d}{2}\right)^3} \times \frac{1}{\frac{\frac{1}{3}\sqrt{2}a^3}{\frac{4}{3}\pi\left(\frac{a}{2}\right)^3}} \times \frac{\sqrt{2}}{12}d^3 \cdot \frac{1}{\frac{4}{3}\pi\left(\frac{d}{2}\right)^3} \times \sqrt[3]{-\frac{q}{2} + \sqrt{\frac{q^2}{4} + \frac{p^3}{27}}} + \sqrt[3]{-\frac{q}{2} - \sqrt{\frac{q^2}{4} + \frac{p^3}{27}}}$$

as regards

$$\sqrt[3]{-\frac{q}{2} + \sqrt{\frac{q^2}{4} + \frac{p^3}{27}}} + \sqrt[3]{-\frac{q}{2} - \sqrt{\frac{q^2}{4} + \frac{p^3}{27}}}$$

for $q = 1729$ and $p = 4096$, we obtain by changing the sign in the algebraic sum of the aforementioned Cardano Formula and after some calculations:

$$2^{-1/\pi} \sqrt[2]{5(3+\sqrt{5})\pi}$$

Multiplied

$$\sqrt[9]{\sqrt[3]{-\frac{1729}{2} + \sqrt{\frac{1729^2}{4} + \frac{4096^3}{27}}} - \sqrt[3]{-\frac{1729}{2} - \sqrt{\frac{1729^2}{4} + \frac{4096^3}{27}}}}$$

and by executing the ninth root of the entire expression:

$$\sqrt[9]{((2^{(-1/\pi)(5(3+\sqrt{5})\pi)^{(1/(2\pi))})}((\sqrt[3]{-1729/2+\sqrt{(1729^2/4+4096^3/27))}}-\sqrt[3]{-1729/2-\sqrt{(1729^2/4+4096^3/27))}})^{1/9})}$$

Get:

$$\sqrt[9]{\left(2^{-1/\pi} \sqrt[2]{5(3+\sqrt{5})\pi} \sqrt[9]{\sqrt[3]{-\frac{1729}{2} + \sqrt{\frac{1729^2}{4} + \frac{4096^3}{27}}} - \sqrt[3]{-\frac{1729}{2} - \sqrt{\frac{1729^2}{4} + \frac{4096^3}{27}}}}\right)}$$

$$2^{-1/(2\pi)} \sqrt[18]{\sqrt[3]{\frac{\sqrt{274958621851}}{3}} - \frac{1729}{2}} + \sqrt[3]{\frac{1729}{2} + \frac{\sqrt{274958621851}}{3}} \sqrt[4]{5(3+\sqrt{5})\pi}$$

namely

$$2^{(-1/(2\pi))} ((-1729/2 + \sqrt{(274958621851/3)/6})^{(1/3)} + (1729/2 + \sqrt{(274958621851/3)/6})^{(1/3)})^{(1/18)} (5(3 + \sqrt{5})) \pi^{(1/(4\pi))}$$

$$= 1.61549140391....$$

The general "unitary" formula, which derives from Constant DN, is as follows:

$$\sqrt{2 \times \frac{2 \cdot \sqrt[16]{\frac{2\sqrt{2}}{\pi}}}{\pi \cdot 0.9991104684} (C \times R \times 2.33 \cdot 10^{-13})} \cong 1.61803398 \dots = \frac{\sqrt{5} + 1}{2}$$

Where is the Del Gaudio-Nardelli constant, $\frac{2\sqrt{2}}{\pi} 0.9991104684$ is the value of the following continuous Rogers-Ramanujan fraction:

$$\frac{\frac{e^{-\frac{\pi}{\sqrt{5}}}}{\sqrt{5}}}{1 + \sqrt[5]{\sqrt{\varphi^5 \sqrt[4]{5^3}} - 1}} - \varphi + 1 = 1 - \frac{e^{-\pi\sqrt{5}}}{1 + \frac{e^{-2\pi\sqrt{5}}}{1 + \frac{e^{-3\pi\sqrt{5}}}{1 + \frac{e^{-4\pi\sqrt{5}}}{1 + \dots}}}} \approx 0.9991104684$$

C is a constant or solution of an equation, **R** is the radius of the Universe, and $2.33 \cdot 10^{-13}$ is the temperature of the universe expressed in GeV.

For example, $C = 9.9128$, by inserting a radius of the Universe, which we have calculated, equal to $R = 2.06274 \cdot 10^{12}$ years, from the "unitary" formula of the constant DN, we obtain:

$$\sqrt[16]{2 \times (2 \cdot ((2\sqrt{2}/\pi))^{(1/16)}) / (1/(\pi \cdot 0.9991104684) (9.9128 \times (2.06274 \times 10^{12}) \times 2.33 \cdot 10^{(-13)}))}$$

$$\sqrt[16]{2 \times \frac{1}{\pi \cdot 0.9991104684} \times \frac{2^{16} \sqrt{\frac{2\sqrt{2}}{\pi}}}{9.9128 \cdot 2.06274 \cdot 10^{12} \cdot 2.33 \cdot 10^{13}}}$$

1.6180359123482642354401744088347098542545273508401733563064818107

...

1.618035912348.... result that is an excellent approximation to the value of the golden ratio 1.618033988749... (Ramanujan's recurring number)

We also get:

$$(\sqrt[16]{2 \times (2 \cdot ((2\sqrt{2}/\pi))^{(1/16)}) / (1/(\pi \cdot 0.9991104684) (9.9128 \times (2.06274 \times 10^{12}) \times 2.33 \cdot 10^{(-13)}))}) dx dy dz$$

Indefinite integral assuming that all variables are real

$$0.809018 x^2 y z + \text{constant}$$

Integral defined on a cube of edge length 2 L

$$\int_{-L}^L \int_{-L}^L \int_{-L}^L 1.61804 dx dy dz = 12.9443 L^3$$

Integral defined on a sphere of radius R

$$\iiint_{x^2+y^2+z^2 < R^2} 1.61804 \, dz \, dy \, dx = 6.77761 R^3$$

From which, for $L = R = 1$, dividing the two integral results defined by the original expression, we get:

$$12.9443 / (\sqrt{(2 \times (2 \cdot (((2\sqrt{2})/\pi))^{(1/16)}) / (1/(\pi \cdot 0.9991104684) (9.9128 \times (2.06274 \times 10^{12}) \times 2.33 \cdot 10^{(-13)})))})$$

Interpreting the input

$$\frac{12.9443}{\sqrt{2 \times \frac{2^{16} \sqrt{\frac{2\sqrt{2}}{\pi}}}{\frac{1}{\pi \times 0.9991104684} \times \frac{9.9128 \times 2.06274 \times 10^{12} \times 2.33}{10^{13}}}}}}$$

Result

8.00001...

$$8.00001.... \approx 8$$

a value that is related to the "Ramanujan function" (an elliptical modular function that satisfies the need for "conformal symmetry") which has 8 "modes" corresponding to the physical vibrations of a superstring.

And

$$3 \times (6.77761 / (\sqrt{(2 \times (2 \cdot (((2\sqrt{2})/\pi))^{(1/16)}) / (1/(\pi \cdot 0.9991104684) (9.9128 \times (2.06274 \times 10^{12}) \times 2.33 \cdot 10^{(-13)})))})$$

Interpreting the input

$$3 \times \frac{6.77761}{\sqrt{2 \times \frac{2^{16} \sqrt{\frac{2\sqrt{2}}{\pi}}}{\frac{1}{\pi \times 0.9991104684} \times \frac{9.9128 \times 2.06274 \times 10^{12} \times 2.33}{10^{13}}}}}}$$

Result

12.5664...

12.5664.... $\approx 4\pi$ = entropy of the buco nero di Bekenstein-Hawking (S_{BH})

New fundamental formula derived from the constant DN

The constant DN (Del Gaudio-Nardelli Constant) is equal to $(2\sqrt{2})/\pi$ is defined as the ratio of the volume of an octahedron to the volume of a sphere and is an intriguing mathematical concept. Michele Nardelli hypothesized that the regular octahedron represents a phase in which the universe is highly symmetrical and with very low entropy. On the other hand, the sphere (which is inscribed in the octahedron, i.e. it is "inside" it) represents the universe emerging from the quantum vacuum, which over time increases entropy and undergoes various symmetry breaks. This is happening in a regime of eternal inflation.

From the following expression

$$\sqrt[3]{2 \times \left(2 \cdot \left(\left(\frac{2\sqrt{2}}{\pi} \right)^{1/16} \right) / \left(\frac{4096}{\pi \cdot 0.9991104684} \right) \left(\frac{(1.616255 \cdot 10^{-35})}{(1.1056 \cdot 10^{-52})} \times C \times R \right) \right)}$$

$$\sqrt[3]{2 \times \frac{2^{16} \sqrt{\frac{2\sqrt{2}}{\pi}}}{\frac{4096}{\pi \cdot 0.9991104684} \left(\frac{1.616255 \cdot 10^{-35}}{1.1056 \cdot 10^{-52}} C R \right)}}$$

which derives from the Constant DN, with $1.616255 \cdot 10^{-35}$ being equal to the Planck length, $1.1056 \cdot 10^{-52}$ being equal to the Cosmological Constant, $C = 1729$ corresponding to the Hardy-Ramanujan number and $R = 4.6018401361 \times 10^{-24}$, representing the radius of the Universe, we get:

$$\sqrt[16]{2 \times \left(2 \cdot \left(\left(\frac{2\sqrt{2}}{\pi} \right)^{1/16} \right) / \left(\frac{4096}{\pi \cdot 0.9991104684} \left(\frac{1.616255 \cdot 10^{-35}}{1.1056 \cdot 10^{-52}} \times 1729 \times 4.6018401361 \times 10^{-24} \right) \right) \right)} = 1.6180329973...$$

$$\sqrt[16]{2 \times \frac{2^{16} \sqrt{\frac{2\sqrt{2}}{\pi}}}{\frac{4096}{\pi \cdot 0.9991104684} \left(\frac{1.616255 \cdot 10^{-35}}{1.1056 \cdot 10^{-52}} \times 1729 \times 4.6018401361 \times 10^{-24} \right)}}$$

1.6180329973075324915067570166297467464225772608929671407919395903

...

1.6180329973075... result that is an excellent approximation to the value of the golden ratio 1.618033988749... (Ramanujan's recurring number)

We also have the following formula:

$$\sqrt[16]{2 \times \left(2 \cdot \left(\left(\frac{2\sqrt{2}}{\pi} \right)^{1/16} \right) / \left(\frac{4096}{\pi \cdot 0.9991104684} \left(\frac{1.616255 \cdot 10^{-35}}{1.1056 \cdot 10^{-52}} \times 1729 \times (4.4525642121 \times 10^{-24}) \right) \right) \right)}$$

Interpreting the input

$$\sqrt[16]{2 \times \frac{2^{16} \sqrt{\frac{2\sqrt{2}}{\pi}}}{\frac{4096}{\pi \cdot 0.9991104684} \left(\frac{1.616255 \cdot 10^{-35}}{1.1056 \cdot 10^{-52}} \times 1729 \times 4.4525642121 \times 10^{-24} \right)}}$$

Result

1.6449323521020921304838989837041511688766218416551668779141660338

...

1.64493235210209213... $\approx \zeta(2) = \pi^2/6 = 1.644934$ (trace of the form of the instant and the recurring number of Ramanujan)

And again:

$$\sqrt[16]{2 \times \left(\frac{2 \cdot \left(\frac{2\sqrt{2}}{\pi} \right)^{1/16}}{4096 / (\pi \cdot 0.9991104684)} \left(\frac{1.616255 \cdot 10^{-35}}{1.1056 \cdot 10^{-52}} \times 1729 \times 1.2206935225 \times 10^{-24} \right) \right)}$$

Interpreting the input

$$\sqrt[16]{2 \times \frac{2 \cdot \sqrt[16]{\frac{2\sqrt{2}}{\pi}}}{\frac{4096}{\pi \cdot 0.9991104684} \left(\frac{1.616255 \cdot 10^{-35}}{1.1056 \cdot 10^{-52}} \times 1729 \times 1.2206935225 \times 10^{-24} \right)}}$$

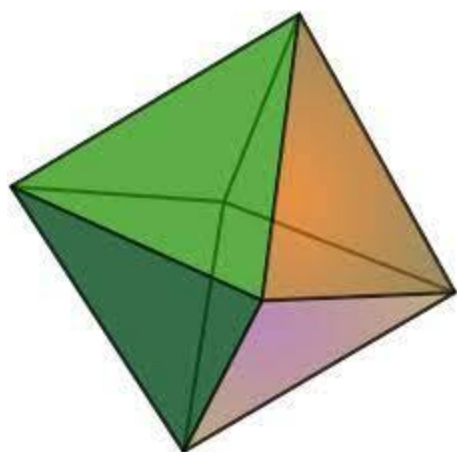
Result

3.1415922573146993939950039231605796469731171781644423955790024797

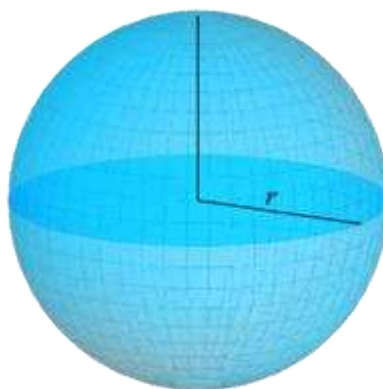
...

3.14159225731469... $\approx \pi$ (Ramanujan's recurring number)

Now, we have that:



Octahedral sphere



Given the value of a volume, regardless of the solid, following Poincaré's conjecture, we compare any solid "without holes" and a sphere. If we compare an octahedron with a sphere, we have:

$$\frac{4}{3}\pi r^3 = \frac{1}{3}\sqrt{2}a^3$$

If we consider the radius of the sphere as an unknown, we must find the value of the side of the octahedron that allows us to equalize the two volumes and that will give us as a result the Constant DN (which will therefore be equal to the radius of the sphere).

From

$$\frac{4}{3}\pi r^3 = \frac{1}{3}\sqrt{2}a^3$$

To find it, we perform the following calculation: r

$$r^3 = \frac{\frac{1}{3}\sqrt{2}a^3}{\frac{4}{3}\pi} = \frac{1}{3}\sqrt{2}a^3 \cdot \frac{3}{4\pi} = \frac{\sqrt{2}a^3}{4\pi} = \frac{\sqrt{2} \cdot \sqrt{2}a^3}{\sqrt{2} \cdot 4\pi} = \frac{2a^3}{\sqrt{2} \cdot 4\pi} = \frac{a^3}{2\sqrt{2}\pi}$$

$$r^3 = \frac{a^3}{2\sqrt{2}\pi}; \quad r = \sqrt[3]{\frac{a^3}{2\sqrt{2}\pi}} = \frac{\textcolor{red}{a}}{\sqrt[3]{2\sqrt{2}\pi}}$$

To find a , we have, for

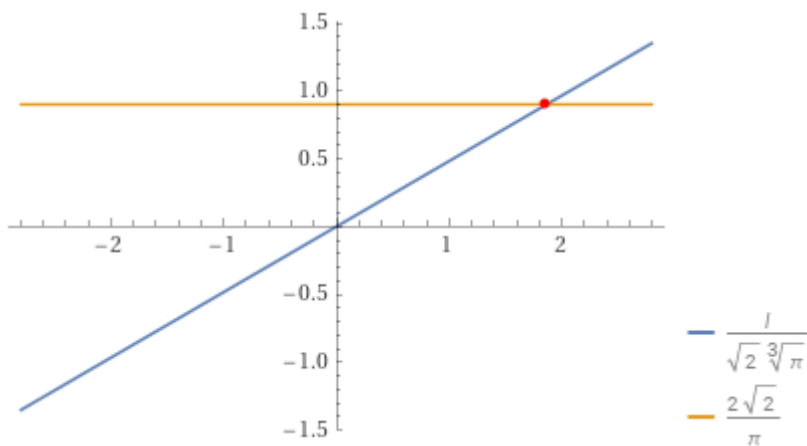
$$r = \frac{2\sqrt{2}}{\pi}; \quad \frac{\textcolor{red}{a}}{\sqrt[3]{2\sqrt{2}\pi}} = \frac{2\sqrt{2}}{\pi};$$

So, multiplying both sides by $\sqrt[3]{2\sqrt{2}\pi}$, we get:

$$\begin{aligned} a &= \frac{2\sqrt{2}}{\pi} \cdot \sqrt[3]{2\sqrt{2}\pi} = \sqrt[3]{\frac{(2\sqrt{2})^3 2\sqrt{2}\pi}{\pi^3}} = \\ &= \sqrt[3]{\frac{8 \cdot \sqrt{2^3} \cdot 2\sqrt{2}}{\pi^2}} = \sqrt[3]{\frac{8 \cdot \sqrt{2} \cdot 2^2 \cdot 2\sqrt{2}}{\pi^2}} = \sqrt[3]{\frac{16 \cdot \sqrt{2} \cdot 2\sqrt{2}}{\pi^2}} \end{aligned}$$

$$= \sqrt[3]{\frac{32\sqrt{2}\sqrt{2}}{\pi^2}} = \sqrt[3]{\frac{32 \cdot 2}{\pi^2}} = \frac{\sqrt[3]{64}}{\sqrt[3]{\pi^2}} = \frac{4}{\sqrt[3]{\pi^2}}; a = \frac{4}{\sqrt[3]{\pi^2}}$$

Weft



Solution

$$a = \frac{4}{\sqrt[3]{\pi^2}}$$

for $V = \frac{1}{3} \cdot \sqrt{2} \cdot a^3$ (volume of the octahedron) and $V = \frac{4}{3} \cdot \pi \cdot r^3$ (volume of the sphere), we get:

from the volume of the octahedron, we have: $V = \frac{1}{3} \cdot \sqrt{2} \cdot a^3 = \left(\frac{1}{3} \cdot \sqrt{2} \cdot \left(\frac{4}{\sqrt[3]{\pi^2}}\right)^3\right)$

$$\left(\frac{1}{3} \cdot \sqrt{2} \cdot \left(\frac{4}{\sqrt[3]{\pi^2}}\right)^3\right)$$

Input

$$\frac{1}{3} \sqrt{2} \left(\frac{4}{\sqrt[3]{\pi^2}} \right)^3$$

$\sqrt[3]{x}$ is the real-valued 3rd root of x

Exact Score

$$\frac{64 \sqrt{2}}{3 \pi^2}$$

Decimal Approximation

3.0568488973373667352847687441746434728806619910203860253430294137

...

3.05684889733....

Property

$\frac{64 \sqrt{2}}{3 \pi^2}$ is a transcendental number

Serial representations

$$\frac{1}{3} \sqrt{2} \left(\frac{4}{\sqrt[3]{\pi^2}} \right)^3 = \frac{64 \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2-z_0)^k z_0^{-k}}{k!}}{3 \pi^2}$$

for (not ($z_0 \in \mathbb{R}$ and $-\infty < z_0 \leq 0$))

$$\frac{1}{3} \sqrt{2} \left(\frac{4}{\sqrt[3]{\pi^2}} \right)^3 = \frac{64 \exp\left(i \pi \left\lfloor \frac{\arg(2-x)}{2\pi} \right\rfloor\right) \sqrt{x} \sum_{k=0}^{\infty} \frac{(-1)^k (2-x)^k x^{-k} \left(-\frac{1}{2}\right)_k}{k!}}{3 \pi^2}$$

for ($x \in \mathbb{R}$ and $x < 0$)

$$\frac{1}{3} \sqrt{2} \left(\frac{4}{\sqrt[3]{\pi^2}} \right)^3 =$$

$$\frac{64 \left(\frac{1}{z_0} \right)^{1/2 \lfloor \arg(2-z_0)/(2\pi) \rfloor} z_0^{1/2 (1 + \lfloor \arg(2-z_0)/(2\pi) \rfloor)} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2} \right)_k (2-z_0)^k z_0^{-k}}{k!}}{3 \pi^2}$$

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

E, from the volume of the sphere $V = (4/3*\pi*r^3) = (4/3*\pi*((2\sqrt{2})/\pi)^3)$

$$(4/3*\pi*((2\sqrt{2})/\pi)^3)$$

Input

$$\frac{4}{3} \pi \left(\frac{2 \sqrt{2}}{\pi} \right)^3$$

Result

$$\frac{64 \sqrt{2}}{3 \pi^2}$$

Decimal Approximation

3.0568488973373667352847687441746434728806619910203860253430294137

...

3.05684889733....

Property

$\frac{64 \sqrt{2}}{3 \pi^2}$ is a transcendental number

Serial representations

$$\frac{1}{3} \left(\pi \left(\frac{2 \sqrt{2}}{\pi} \right)^3 \right)^4 = \frac{32 \sqrt{z_0}^3 \left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2-z_0)^k z_0^{-k}}{k!} \right)^3}{3 \pi^2}$$

for (not ($z_0 \in \mathbb{R}$ and $-\infty < z_0 \leq 0$))

$$\frac{1}{3} \left(\pi \left(\frac{2 \sqrt{2}}{\pi} \right)^3 \right)^4 = \frac{32 \exp^3(i \pi \lfloor \frac{\arg(2-x)}{2\pi} \rfloor) \sqrt{x}^3 \left(\sum_{k=0}^{\infty} \frac{(-1)^k (2-x)^k x^{-k} \left(-\frac{1}{2}\right)_k}{k!} \right)^3}{3 \pi^2}$$

for ($x \in \mathbb{R}$ and $x < 0$)

$$\frac{1}{3} \left(\pi \left(\frac{2 \sqrt{2}}{\pi} \right)^3 \right)^4 = \frac{32 \left(\frac{1}{z_0} \right)^{3/2 \lfloor \arg(2-z_0)/(2\pi) \rfloor} z_0^{3/2 (1 + \lfloor \arg(2-z_0)/(2\pi) \rfloor)} \left(\sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (2-z_0)^k z_0^{-k}}{k!} \right)^3}{3 \pi^2}$$

$n!$ is the factorial function

$(a)_n$ is the Pochhammer symbol (rising factorial)

\mathbb{R} is the set of real numbers

$\arg(z)$ is the complex argument

$\lfloor x \rfloor$ is the floor function

i is the imaginary unit

From:

Modular equations and approximations of π - Srinivasa Ramanujan - Quarterly Journal of Mathematics, XLV, 1914, 350 – 372

We have that:

Hence

$$\begin{aligned} 64g_{22}^{24} &= e^{\pi\sqrt{22}} - 24 + 276e^{-\pi\sqrt{22}} - \dots, \\ 64g_{22}^{-24} &= 4096e^{-\pi\sqrt{22}} + \dots, \end{aligned}$$

so that

$$64(g_{22}^{24} + g_{22}^{-24}) = e^{\pi\sqrt{22}} - 24 + 4372e^{-\pi\sqrt{22}} + \dots = 64\{(1 + \sqrt{2})^{12} + (1 - \sqrt{2})^{12}\}.$$

Hence

$$e^{\pi\sqrt{22}} = 2508951.9982\dots$$

Again

$$G_{37} = (6 + \sqrt{37})^{\frac{1}{4}},$$

$$\begin{aligned} 64G_{37}^{24} &= e^{\pi\sqrt{37}} + 24 + 276e^{-\pi\sqrt{37}} + \dots, \\ 64G_{37}^{-24} &= 4096e^{-\pi\sqrt{37}} - \dots, \end{aligned}$$

so that

$$64(G_{37}^{24} + G_{37}^{-24}) = e^{\pi\sqrt{37}} + 24 + 4372e^{-\pi\sqrt{37}} - \dots = 64\{(6 + \sqrt{37})^6 + (6 - \sqrt{37})^6\}.$$

Hence

$$e^{\pi\sqrt{37}} = 199148647.999978\dots$$

Similarly, from

$$g_{58} = \sqrt{\left(\frac{5 + \sqrt{29}}{2}\right)},$$

we obtain

$$64(g_{58}^{24} + g_{58}^{-24}) = e^{\pi\sqrt{58}} - 24 + 4372e^{-\pi\sqrt{58}} + \dots = 64\left\{\left(\frac{5 + \sqrt{29}}{2}\right)^{12} + \left(\frac{5 - \sqrt{29}}{2}\right)^{12}\right\}.$$

Hence

$$e^{\pi\sqrt{58}} = 24591257751.99999982\dots$$

We note that, as far as 4372 is concerned, we can get the following results:

$$27((4372)^{1/2} - 2 - 1/2(((\sqrt{(10-2\sqrt{5})} - 2))/(\sqrt{5}-1)))) + \phi$$

Input

$$27 \left(\sqrt{4372} - 2 - \frac{1}{2} \times \frac{\sqrt{10 - 2\sqrt{5}} - 2}{\sqrt{5} - 1} \right) + \phi$$

ϕ is the golden ratio

Result

$$\phi + 27 \left(-2 + 2\sqrt{1093} - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{2(\sqrt{5} - 1)} \right)$$

Decimal Approximation

1729.0526944170905625170637208637148763684189306538457854815447023

...

1729.0526944....

This result is very close to the mass of the glueball candidate scalar meson **f₀(1710)**. In addition, 1728 occurs in the algebraic formula for the invariant j of an elliptic curve. (1728 = 82 * 33) The number 1728 is one less than the Hardy-Ramanujan number 1729 (taxi number)

Forme alternative

$$\frac{1}{8} \left(-27 \sqrt{5(10 - 2\sqrt{5})} + 58\sqrt{5} + 432\sqrt{1093} - 27 \sqrt{2(5 - \sqrt{5})} - 374 \right)$$

$$\phi - 54 + 54\sqrt{1093} + \frac{27}{4} \left(1 + \sqrt{5} - \sqrt{2(5 + \sqrt{5})} \right)$$

$$\phi - 54 + 54 \sqrt{1093} - \frac{27 \left(\sqrt{10 - 2\sqrt{5}} - 2 \right)}{2(\sqrt{5} - 1)}$$

Minimum polynomial

$$\begin{aligned} & 256 x^8 + 95744 x^7 - 324875080 x^6 - \\ & 914210725504 x^5 + 1549835554921184 x^4 + \\ & 2911478392539914656 x^3 - 32941144911224677091680 x^2 - \\ & 3092528914069760354714456 x + 26320050609744039027169013041 \end{aligned}$$

Espany moduli

$$-\frac{187}{4} + \frac{29\sqrt{5}}{4} + 54\sqrt{1093} - \frac{27}{8}\sqrt{10-2\sqrt{5}} - \frac{27}{8}\sqrt{5(10-2\sqrt{5})}$$

$$-\frac{107}{2} + \frac{\sqrt{5}}{2} + 54\sqrt{1093} + \frac{27}{\sqrt{5}-1} - \frac{27\sqrt{10-2\sqrt{5}}}{2(\sqrt{5}-1)}$$

Serial representations

$$\begin{aligned} & 27 \left(\sqrt{4372} - 2 - \frac{\sqrt{10-2\sqrt{5}} - 2}{(\sqrt{5}-1)2} \right) + \phi = \\ & \left(162 - 108\sqrt{1093} - 2\phi - 108\sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} + \right. \\ & \quad 108\sqrt{1093} \sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} + 2\phi \sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} - \\ & \quad \left. 27\sqrt{9-2\sqrt{5}} \sum_{k=0}^{\infty} \binom{\frac{1}{2}}{k} (9-2\sqrt{5})^{-k} \right) / \left(2 \left(-1 + \sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} \right) \right) \end{aligned}$$

$$\begin{aligned}
& 27 \left(\sqrt{4372} - 2 - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{(\sqrt{5} - 1)2} \right) + \phi = \\
& \left(162 - 108\sqrt{1093} - 2\phi - 108\sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} + \right. \\
& \quad 108\sqrt{1093} \sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} + 2\phi \sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} - \\
& \quad \left. 27\sqrt{9 - 2\sqrt{5}} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (9 - 2\sqrt{5})^{-k}}{k!} \right) / \\
& \left(2 \left(-1 + \sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} \right) \right)
\end{aligned}$$

$$\begin{aligned}
& 27 \left(\sqrt{4372} - 2 - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{(\sqrt{5} - 1)2} \right) + \phi = \\
& \left(162 - 108\sqrt{1093} - 2\phi - 108\sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} + \right. \\
& \quad 108\sqrt{1093} \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} + \\
& \quad 2\phi \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} - \\
& \quad \left. 27\sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (10 - 2\sqrt{5} - z_0)^k z_0^{-k}}{k!} \right) / \\
& \left(2 \left(-1 + \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} \right) \right)
\end{aligned}$$

for (not $(z_0 \in \mathbb{R} \text{ and } -\infty < z_0 \leq 0)$)

O:

$$27((4096+276)^{1/2}-2-1/2(((\sqrt{(10-2\sqrt{5})}-2))(\sqrt{5}-1))))+\phi$$

Input

$$27\left(\sqrt{4096+276}-2-\frac{1}{2}\times\frac{\sqrt{10-2\sqrt{5}}-2}{\sqrt{5}-1}\right)+\phi$$

ϕ is the golden ratio

Result

$$\phi+27\left(-2+2\sqrt{1093}-\frac{\sqrt{10-2\sqrt{5}}-2}{2(\sqrt{5}-1)}\right)$$

Decimal Approximation

1729.0526944170905625170637208637148763684189306538457854815447023

...

1729.0526944.... as above

Forme alternative

$$\frac{1}{8}\left(-27\sqrt{5(10-2\sqrt{5})}+58\sqrt{5}+432\sqrt{1093}-27\sqrt{2(5-\sqrt{5})}-374\right)$$

$$\phi-54+54\sqrt{1093}+\frac{27}{4}\left(1+\sqrt{5}-\sqrt{2(5+\sqrt{5})}\right)$$

$$\phi-54+54\sqrt{1093}-\frac{27\left(\sqrt{10-2\sqrt{5}}-2\right)}{2(\sqrt{5}-1)}$$

Minimum polynomial

$$256 x^8 + 95744 x^7 - 324875080 x^6 - 914210725504 x^5 + 1549835554921184 x^4 + 2911478392539914656 x^3 - 32941144911224677091680 x^2 - 3092528914069760354714456 x + 26320050609744039027169013041$$

Espany moduli

$$-\frac{187}{4} + \frac{29\sqrt{5}}{4} + 54\sqrt{1093} - \frac{27}{8}\sqrt{10-2\sqrt{5}} - \frac{27}{8}\sqrt{5(10-2\sqrt{5})}$$

$$-\frac{107}{2} + \frac{\sqrt{5}}{2} + 54\sqrt{1093} + \frac{27}{\sqrt{5}-1} - \frac{27\sqrt{10-2\sqrt{5}}}{2(\sqrt{5}-1)}$$

Serial representations

$$27 \left(\sqrt{4096+276} - 2 - \frac{\sqrt{10-2\sqrt{5}}-2}{(\sqrt{5}-1)2} \right) + \phi =$$

$$\left(162 - 108\sqrt{1093} - 2\phi - 108\sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} + \right.$$

$$108\sqrt{1093} \sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} + 2\phi \sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} -$$

$$\left. 27\sqrt{9-2\sqrt{5}} \sum_{k=0}^{\infty} \binom{\frac{1}{2}}{k} (9-2\sqrt{5})^{-k} \right) / \left(2 \left(-1 + \sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} \right) \right)$$

$$\begin{aligned}
& 27 \left(\sqrt{4096 + 276} - 2 - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{(\sqrt{5} - 1)2} \right) + \phi = \\
& \left(162 - 108\sqrt{1093} - 2\phi - 108\sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} + \right. \\
& \quad 108\sqrt{1093} \sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} + 2\phi \sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} - \\
& \quad \left. 27\sqrt{9 - 2\sqrt{5}} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (9 - 2\sqrt{5})^{-k}}{k!} \right) / \\
& \left(2 \left(-1 + \sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} \right) \right)
\end{aligned}$$

$$\begin{aligned}
& 27 \left(\sqrt{4096 + 276} - 2 - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{(\sqrt{5} - 1)2} \right) + \phi = \\
& \left(162 - 108\sqrt{1093} - 2\phi - 108\sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} + \right. \\
& \quad 108\sqrt{1093} \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} + \\
& \quad 2\phi \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} - \\
& \quad \left. 27\sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (10 - 2\sqrt{5} - z_0)^k z_0^{-k}}{k!} \right) / \\
& \left(2 \left(-1 + \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} \right) \right)
\end{aligned}$$

for (not $(z_0 \in \mathbb{R} \text{ and } -\infty < z_0 \leq 0)$)

From which:

$$(27((4372)^{1/2}-2-1/2(((\sqrt{(10-2\sqrt{5})}-2))/(\sqrt{5}-1))))+\phi)^{1/15}$$

Input

$$\sqrt[15]{27\left(\sqrt{4372}-2-\frac{1}{2}\times\frac{\sqrt{10-2\sqrt{5}}-2}{\sqrt{5}-1}\right)+\phi}$$

ϕ is the golden ratio

Exact Score

$$\sqrt[15]{\phi+27\left(-2+2\sqrt{1093}-\frac{\sqrt{10-2\sqrt{5}}-2}{2(\sqrt{5}-1)}\right)}$$

Decimal Approximation

1.6438185685849862799902301317036810054185756873505184804834183124
...

$$1.64381856858\dots\approx\zeta(2)=\frac{\pi^2}{6}=1.644934\dots$$

Forme alternative

$$\sqrt[15]{\phi-54+54\sqrt{1093}-\frac{27\left(\sqrt{10-2\sqrt{5}}-2\right)}{2(\sqrt{5}-1)}}$$

$$\sqrt[15]{\frac{1}{\frac{2(\sqrt{5}-1)}{166-108\sqrt{5}-108\sqrt{1093}+108\sqrt{5465}-27\sqrt{2(5-\sqrt{5})}}}}$$

$$\sqrt[15]{\text{root of } 256x^8 + 95744x^7 - 3248750080x^6 - 914210725504x^5 + 154983555492184x^4 + 2911478392539914656x^3 - 32941144911224677091680x^2 - 3092528914069760354714456x + 26320050609744039027169013041 \text{ near } x = 1729.05}$$

Minimum polynomial

$$256x^{120} + 95744x^{105} - 3248750080x^{90} - 914210725504x^{75} + 154983555492184x^{60} + 2911478392539914656x^{45} - 32941144911224677091680x^{30} - 3092528914069760354714456x^{15} + 26320050609744039027169013041$$

Espany moduli

$$\sqrt[15]{\frac{1}{2}(1 + \sqrt{5}) + 27 \left(-2 + 2\sqrt{1093} - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{2(\sqrt{5} - 1)} \right)}$$

$$\sqrt[15]{-\frac{187}{4} + \frac{29\sqrt{5}}{4} + 54\sqrt{1093} - \frac{27}{8}\sqrt{10 - 2\sqrt{5}} - \frac{27}{8}\sqrt{5(10 - 2\sqrt{5})}}$$

All roots 15 of $\phi + 27(-2 + 2\sqrt{1093} - (\sqrt{10 - 2\sqrt{5}} - 2)/(2(\sqrt{5} - 1)))$

$$e^{0} \sqrt[15]{\phi + 27 \left(-2 + 2\sqrt{1093} - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{2(\sqrt{5} - 1)} \right)} \approx 1.64382 \text{ (real, principal root)}$$

$$e^{(2i\pi)/15} \sqrt[15]{\phi + 27 \left(-2 + 2\sqrt{1093} - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{2(\sqrt{5} - 1)} \right)} \approx 1.50170 + 0.6686i$$

$$e^{(4i\pi)/15} \sqrt[15]{\phi + 27 \left(-2 + 2\sqrt{1093} - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{2(\sqrt{5} - 1)} \right)} \approx 1.0999 + 1.2216i$$

$$e^{(2i\pi)/5} \sqrt[15]{\phi + 27 \left(-2 + 2\sqrt{1093} - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{2(\sqrt{5} - 1)} \right)} \approx 0.5080 + 1.5634i$$

$$e^{(8i\pi)/5} \sqrt[15]{\phi + 27 \left(-2 + 2\sqrt{1093} - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{2(\sqrt{5} - 1)} \right)} \approx -0.17183 + 1.63481i$$

Serial representations

$$\begin{aligned} & \sqrt[15]{27 \left(\sqrt{4372} - 2 - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{(\sqrt{5} - 1)2} \right) + \phi} = \\ & \frac{1}{\sqrt[15]{2}} \left(\left(\left(162 - 108\sqrt{1093} - 2\phi - 108\sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} + 108\sqrt{1093}\sqrt{4} \right. \right. \right. \\ & \quad \left. \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} + 2\phi\sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} - 27\sqrt{9 - 2\sqrt{5}} \right. \\ & \quad \left. \left. \sum_{k=0}^{\infty} \binom{\frac{1}{2}}{k} (9 - 2\sqrt{5})^{-k} \right) / \left(-1 + \sqrt{4} \sum_{k=0}^{\infty} 4^{-k} \binom{\frac{1}{2}}{k} \right) \right)^{(1/15)} \end{aligned}$$

$$\begin{aligned} & \sqrt[15]{27 \left(\sqrt{4372} - 2 - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{(\sqrt{5} - 1)2} \right) + \phi} = \\ & \frac{1}{\sqrt[15]{2}} \left(\left(\left(162 - 108\sqrt{1093} - 2\phi - 108\sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} + \right. \right. \right. \\ & \quad 108\sqrt{1093}\sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} + 2\phi\sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} - \\ & \quad \left. 27\sqrt{9 - 2\sqrt{5}} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (9 - 2\sqrt{5})^{-k}}{k!} \right) / \\ & \quad \left(-1 + \sqrt{4} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{4}\right)^k \left(-\frac{1}{2}\right)_k}{k!} \right) \right)^{(1/15)} \end{aligned}$$

$$\begin{aligned}
& \sqrt[15]{27 \left(\sqrt{4372} - 2 - \frac{\sqrt{10 - 2\sqrt{5}} - 2}{(\sqrt{5} - 1)2} \right) + \phi} = \\
& \frac{1}{\sqrt[15]{2}} \left(\left(\left(162 - 108\sqrt{1093} - 2\phi - 108\sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} + \right. \right. \right. \\
& \quad \left. \left. 108\sqrt{1093} \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} + \right. \right. \\
& \quad \left. \left. 2\phi \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} - \right. \right. \\
& \quad \left. \left. 27\sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (10 - 2\sqrt{5} - z_0)^k z_0^{-k}}{k!} \right) / \right. \\
& \quad \left. \left(-1 + \sqrt{z_0} \sum_{k=0}^{\infty} \frac{(-1)^k \left(-\frac{1}{2}\right)_k (5 - z_0)^k z_0^{-k}}{k!} \right) \right)^{\wedge (1/15)} \\
& \text{for (not } (z_0 \in \mathbb{R} \text{ and } -\infty < z_0 \leq 0))
\end{aligned}$$

Full representation

$$(1+z)^a = \frac{\int_{-i\infty+\gamma}^{i\infty+\gamma} \frac{\Gamma(s)\Gamma(-a-s)}{z^s} ds}{(2\pi i)\Gamma(-a)} \quad \text{for } (0 < \gamma < -\text{Re}(a) \text{ and } |\arg(z)| < \pi)$$

Also:

An update on the breaking of brane supersymmetry - J. Mourad and A. Sagnotti -
arXiv:1711.11494v1 [hep-th] 30 Nov 2017

From the following vacuum equations:

$$\begin{aligned}
T e^{\gamma_E \phi} &= - \frac{\beta_E^{(p)} h^2}{\gamma_E} e^{-2(8-p)C + 2\beta_E^{(p)} \phi} \\
16 k' e^{-2C} &= \frac{h^2 \left(p + 1 - \frac{2\beta_E^{(p)}}{\gamma_E} \right) e^{-2(8-p)C + 2\beta_E^{(p)} \phi}}{(7-p)}
\end{aligned}$$

$$(A')^2 = k e^{-2A} + \frac{h^2}{16(p+1)} \left(7 - p + \frac{2\beta_E^{(p)}}{\gamma_E} \right) e^{-2(8-p)C + 2\beta_E^{(p)}\phi}$$

we obtained, from the results almost equal to the equations, putting

$4096 e^{-\pi\sqrt{18}}$ Instead of

$$e^{-2(8-p)C + 2\beta_E^{(p)}\phi}$$

a new possible mathematical connection between the two exponentials. Hence also the values relative to p , C , βE and correspond to the exponents of ϕe (i.e. of exp).

From here we obtain for $p = 5$ and $\beta E = 1/2$:

$$e^{-6C+\phi} = 4096 e^{-\pi\sqrt{18}}$$

Therefore, with respect to the exponentials of the vacuum equations, the Ramanujan exponential has a coefficient of 4096 which is equal to 64^2 , while $-6C+$ is equal to $-\pi\sqrt{18}$. From this it follows that it is possible to establish the value of the dilator mathematically.

For

$\exp((- \pi \sqrt{18}))$ we get:

Input:

$$\exp(-\pi\sqrt{18})$$

Exact Score:

$$e^{-3\sqrt{2}\pi}$$

Decimal Approximation:

$$1.6272016226072509292942156739117979541838581136954016... \times 10^{-6}$$

$$1.6272016... * 10^{-6}$$

Property:

$e^{-3\sqrt{2}\pi}$ is a transcendental number

Series representations:

$$e^{-\pi\sqrt{18}} = e^{-\pi\sqrt{17} \sum_{k=0}^{\infty} 17^{-k} \binom{1/2}{k}}$$

$$e^{-\pi\sqrt{18}} = \exp\left(-\pi\sqrt{17} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{17}\right)^k \left(-\frac{1}{2}\right)_k}{k!}\right)$$

$$e^{-\pi\sqrt{18}} = \exp\left(-\frac{\pi \sum_{j=0}^{\infty} \operatorname{Res}_{s=-\frac{1}{2}+j} 17^{-s} \Gamma\left(-\frac{1}{2}-s\right) \Gamma(s)}{2\sqrt{\pi}}\right)$$

Now, we have the following calculations:

$$e^{-6C+\phi} = 4096e^{-\pi\sqrt{18}}$$

$$= e^{-\pi\sqrt{18}} 1,6272016... * 10^{-6}$$

from which:

$$= \frac{1}{4096} e^{-6C+\phi} 1,6272016... * 10^{-6}$$

$$0.000244140625 e^{-6C+\phi} = e^{-\pi\sqrt{18}} 1.6272016... * 10^{-6}$$

Hour:

$$\ln(e^{-\pi\sqrt{18}}) = -13.328648814475 = -\pi\sqrt{18}$$

E:

$$(1,6272016 * 10^{-6}) * 1 / (0,000244140625)$$

Interpretation of the input:

$$\frac{1.6272016}{10^6} \times \frac{1}{0.000244140625}$$

Result:

0.0066650177536

0.006665017...

Therefore:

$$0.000244140625 e^{-6C+\phi} = e^{-\pi\sqrt{18}}$$

Dividing both sides by 0.000244140625, we get:

$$\frac{0.000244140625}{0.000244140625} e^{-6C+\phi} = \frac{1}{0.000244140625} e^{-\pi\sqrt{18}}$$

$$= 0,0066650177536 e^{-6C+\phi}$$

$$((((\exp((-Pi*\sqrt{18})))))))*1/0.000244140625$$

Interpretation of the input:

$$\exp(-\pi\sqrt{18}) \times \frac{1}{0.000244140625}$$

Result:

0.00666501785...

0.00666501785...

Series representations:

$$\frac{\exp(-\pi\sqrt{18})}{0.000244141} = 4096 \exp\left(-\pi\sqrt{17} \sum_{k=0}^{\infty} 17^{-k} \binom{\frac{1}{2}}{k}\right)$$

$$\frac{\exp(-\pi\sqrt{18})}{0.000244141} = 4096 \exp\left(-\pi\sqrt{17} \sum_{k=0}^{\infty} \frac{\left(-\frac{1}{17}\right)^k \left(-\frac{1}{2}\right)_k}{k!}\right)$$

$$\frac{\exp(-\pi\sqrt{18})}{0.000244141} = 4096 \exp\left(-\frac{\pi \sum_{j=0}^{\infty} \operatorname{Res}_{s=-\frac{1}{2}+j} 17^{-s} \Gamma\left(-\frac{1}{2}-s\right) \Gamma(s)}{2\sqrt{\pi}}\right)$$

Hour:

$$= 0,0066650177536e^{-6C+\phi}$$

$$\exp\left(-\pi\sqrt{18}\right)\times\frac{1}{0.000244140625} =$$

$$e^{-\pi\sqrt{18}}\times\frac{1}{0.000244140625}$$

$$= 0,00666501785...$$

Also:

$$\ln(0,00666501784619)$$

Interpretation of the input:

$$\log(0.00666501784619)$$

Result:

$$-5.010882647757...$$

$$-5.010882647757...$$

Alternative representations:

$$\log(0.006665017846190000) = \log_e(0.006665017846190000)$$

$$\log(0.006665017846190000) = \log(a) \log_a(0.006665017846190000)$$

$$\log(0.006665017846190000) = -\text{Li}_1(0.993334982153810000)$$

Series representations:

$$\log(0.006665017846190000) = -\sum_{k=1}^{\infty} \frac{(-1)^k (-0.993334982153810000)^k}{k}$$

$$\log(0.006665017846190000) = 2 i \pi \left\lfloor \frac{\arg(0.006665017846190000 - x)}{2 \pi} \right\rfloor + \log(x) - \sum_{k=1}^{\infty} \frac{(-1)^k (0.006665017846190000 - x)^k x^{-k}}{k} \quad \text{for } x < 0$$

$$\log(0.006665017846190000) = \left\lfloor \frac{\arg(0.006665017846190000 - z_0)}{2 \pi} \right\rfloor \log\left(\frac{1}{z_0}\right) + \log(z_0) + \left\lfloor \frac{\arg(0.006665017846190000 - z_0)}{2 \pi} \right\rfloor \log(z_0) - \sum_{k=1}^{\infty} \frac{(-1)^k (0.006665017846190000 - z_0)^k z_0^{-k}}{k}$$

Full representation:

$$\log(0.006665017846190000) = \int_1^{0.006665017846190000} \frac{1}{t} dt$$

Ultimately:

$$-6C + \phi = -5.010882647757 \dots$$

and for $C = 1$, we get:

$$\phi = -5.010882647757 + 6 = 0.989117352243 = \phi$$

Note that the values of ns (spectral index) 0.965, the mean of the Omega mesons slope Regge 0.987428571 and the dilaton 0.989117352243, are also related to the following two continuous Rogers-Ramanujan fractions:

$$\frac{e^{-\frac{\pi}{5}}}{\sqrt{(\phi-1)\sqrt{5}} - \phi + 1} = 1 - \frac{e^{-\pi}}{1 + \frac{e^{-2\pi}}{1 + \frac{e^{-3\pi}}{1 + \frac{e^{-4\pi}}{1 + \dots}}}} \approx 0.9568666373$$

$$\frac{e^{-\frac{\pi}{\sqrt{5}}}}{\sqrt{5} - \phi + 1} = 1 - \frac{e^{-\pi\sqrt{5}}}{1 + \frac{e^{-2\pi\sqrt{5}}}{1 + \frac{e^{-3\pi\sqrt{5}}}{1 + \frac{e^{-4\pi\sqrt{5}}}{1 + \dots}}}} \approx 0.9991104684$$

(<http://www.bitman.name/math/article/102/109/>)

Also performing the root 512 of the inverse value of the rest mass of the Pion meson 139.57, we obtain:

$$((1/(139.57)))^{1/512}$$

Interpretation of the input:

$$\sqrt[512]{\frac{1}{139.57}}$$

Result:

0.990400732708644027550973755713301415460732796178555551684...

0.99040073.... result very close to the value of dilaton $0.989117352243 = \phi$ and to the value of the following continuous Rogers-Ramanujan fraction:

$$\frac{\frac{e^{-\frac{\pi}{\sqrt{5}}}}{\sqrt{5}}}{1 + \sqrt[5]{\sqrt{\phi^5 4 \sqrt{5^3}} - 1}} - \phi + 1 = 1 - \frac{e^{-\pi\sqrt{5}}}{1 + \frac{e^{-2\pi\sqrt{5}}}{1 + \frac{e^{-3\pi\sqrt{5}}}{1 + \frac{e^{-4\pi\sqrt{5}}}{1 + \dots}}}} \approx 0.9991104684$$

From

Properties of nilpotent supergravity - *E. Dudas, S. Ferrara, A. Kehagias and A. Sagnotti* - arXiv:1507.07842v2 [hep-th] 14 Sep 2015

We have that:

Cosmological inflation with a tiny tensor-to-scalar ratio r , consistently with PLANCK data, may also be described within the present framework, for instance choosing

$$\alpha(\Phi) = i M \left(\Phi + b \Phi e^{ik\Phi} \right) . \quad (4.35)$$

This potential bears some similarities with the Kähler moduli inflation of [32] and with the poly-instanton inflation of [33]. One can verify that $\chi = 0$ solves the field equations, and that the potential along the $\chi = 0$ trajectory is now

$$V = \frac{M^2}{3} \left(1 - a \phi e^{-\gamma\phi} \right)^2 . \quad (4.36)$$

Let's analyze the following equation:

$$V = \frac{M^2}{3} \left(1 - a \phi e^{-\gamma \phi} \right)^2 .$$

$$\phi = \varphi - \frac{\sqrt{6}}{k} ,$$

$$a = \frac{b\gamma}{e} < 0 , \quad \gamma = \frac{k}{\sqrt{6}} < 0 .$$

We:

$$(M^2/3 * [1 - (b/\text{numero di Eulero} * k/\sqrt{6}) * (\varphi - \sqrt{6}/k) * \exp(-(k/\sqrt{6})(\varphi - \sqrt{6}/k))]^2$$

namely

$$V = (M^2/3 * [1 - (b/\text{numero di Eulero} * k/\sqrt{6}) * (\varphi - \sqrt{6}/k) * \exp(-(k/\sqrt{6})(\varphi - \sqrt{6}/k))]^2$$

For $k = 2$ and $\varphi = 0.9991104684$, this is the value of the scalar field which is equal to the value of the following continuous Rogers–Ramanujan fraction:

$$\frac{\frac{e^{-\frac{\pi}{\sqrt{5}}}}{\sqrt{5}}}{1 + \sqrt[5]{\sqrt{\varphi^5 \sqrt[4]{5^3}} - 1}} = 1 - \frac{e^{-\pi\sqrt{5}}}{1 + \frac{e^{-2\pi\sqrt{5}}}{1 + \frac{e^{-3\pi\sqrt{5}}}{1 + \frac{e^{-4\pi\sqrt{5}}}{1 + \dots}}}} \approx 0.9991104684$$

Get:

$$V = (M^2)/3 * [1 - (b/\text{Euler number} * 2/\sqrt{6}) * (0.9991104684 - \sqrt{6}/2) * \exp(-(2/\sqrt{6})(0.9991104684 - \sqrt{6}/2))]^2$$

Interpretation of the input:

$$V = \frac{M^2}{3} \left(1 - \left(\frac{b}{e} \times \frac{2}{\sqrt{6}} \right) \left(0.9991104684 - \frac{\sqrt{6}}{2} \right) \exp \left(- \frac{2}{\sqrt{6}} \left(0.9991104684 - \frac{\sqrt{6}}{2} \right) \right) \right)^2$$

Result:

$$V = \frac{1}{3} (0.0814845 b + 1)^2 M^2$$

Solutions:

$$b = \frac{225.913 \left(-0.054323 M^2 \pm 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} \quad (M \neq 0)$$

Forme alternative:

$$V = 0.00221324 (b + 12.2723)^2 M^2$$

$$V = 0.00221324 (b^2 M^2 + 24.5445 b M^2 + 150.609 M^2)$$

$$-0.00221324 b^2 M^2 - 0.054323 b M^2 - \frac{M^2}{3} + V = 0$$

Extended form:

$$V = 0.00221324 b^2 M^2 + 0.054323 b M^2 + \frac{M^2}{3}$$

Alternative form assuming that b, M and V are positive:

$$V = 0.00221324 (b + 12.2723)^2 M^2$$

Alternative form assuming that b, M and V are real:

$$V = 0.00221324 b^2 M^2 + 0.054323 b M^2 + 0.333333 M^2 + 0$$

Derivative:

$$\frac{\partial}{\partial b} \left(\frac{1}{3} (0.0814845 b + 1)^2 M^2 \right) = 0.054323 (0.0814845 b + 1) M^2$$

Implicit derivatives

$$\frac{\partial b(M, V)}{\partial V} = \frac{154317775011120075}{36961748(226802245 + 18480874b)M^2}$$

$$\frac{\partial b(M, V)}{\partial M} = - \frac{\frac{226802245}{18480874} + b}{M}$$

$$\frac{\partial M(b, V)}{\partial V} = \frac{154317775011120075}{2(226802245 + 18480874b)^2 M}$$

$$\frac{\partial M(b, V)}{\partial b} = - \frac{18480874 M}{226802245 + 18480874 b}$$

$$\frac{\partial V(b, M)}{\partial M} = \frac{2(226802245 + 18480874b)^2 M}{154317775011120075}$$

$$\frac{\partial V(b, M)}{\partial b} = \frac{36961748(226802245 + 18480874b)M^2}{154317775011120075}$$

Global minimum:

$$\min\left\{\frac{1}{3}(0.0814845b+1)^2M^2\right\}=0 \text{ at } (b, M) = (-16, 0)$$

Global Minimums:

$$\min\left\{\frac{1}{3}M^2\left(1-\frac{(b+2)\left(0.9991104684-\frac{\sqrt{6}}{2}\right)\exp\left(-\frac{2\left(0.9991104684-\frac{\sqrt{6}}{2}\right)}{\sqrt{6}}\right)}{e\sqrt{6}}\right)^2\right\}=0$$

for $b = -\frac{226802245}{18480874}$

$$\min\left\{\frac{1}{3}M^2\left(1-\frac{(b+2)\left(0.9991104684-\frac{\sqrt{6}}{2}\right)\exp\left(-\frac{2\left(0.9991104684-\frac{\sqrt{6}}{2}\right)}{\sqrt{6}}\right)}{e\sqrt{6}}\right)^2\right\}=0$$

for $M = 0$

Also:

$$b = \frac{225.913\left(-0.054323M^2 \pm 6.58545 \times 10^{-10}\sqrt{M^4}\right)}{M^2} \quad (M \neq 0)$$

Get:

$$(225,913 (-0,054323 M^2 + 6,58545 \times 10^{-10} \sqrt{M^4}))/M^2$$

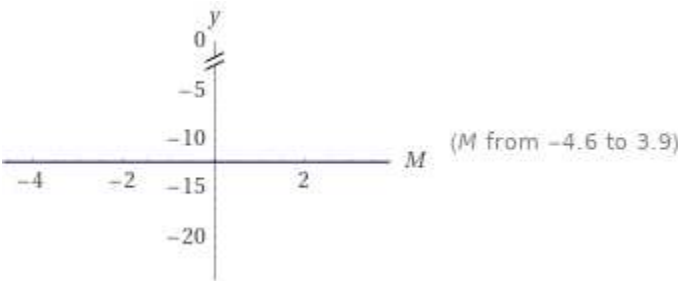
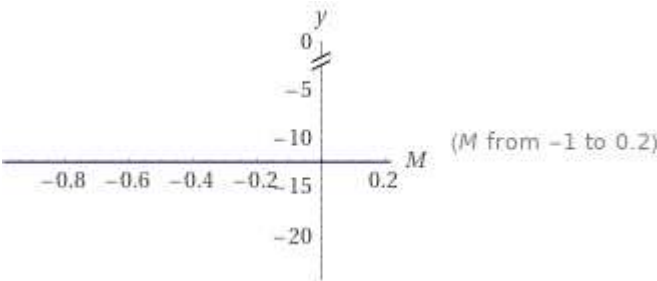
Interpretation of the input:

$$\frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2}$$

Result:

$$\frac{225.913 \left(6.58545 \times 10^{-10} \sqrt{M^4} - 0.054323 M^2 \right)}{M^2}$$

Weft:



Alternative form assuming that M is real:

$$-12.2723$$

-12.2723 result very close to the entropy value of the black hole $12.1904 = \ln(196884)$

Forme alternative:

$$-\frac{12.2723 \left(M^2 - 1.21228 \times 10^{-8} \sqrt{M^4} \right)}{M^2}$$

$$\frac{1.48774 \times 10^{-7} \sqrt{M^4} - 12.2723 M^2}{M^2}$$

Extended form:

$$\frac{1.48774 \times 10^{-7} \sqrt{M^4}}{M^2} - 12.2723$$

Property as a function:

Parity

even

Series expansion at M = 0:

$$\left(\frac{1.48774 \times 10^{-7} \sqrt{M^4}}{M^2} - 12.2723 \right) + O(M^6)$$

(generalized Puiseux series)

Series expansion at $M = \infty$:

$$-12.2723$$

Derivative:

$$\frac{d}{dM} \left(\frac{225.913 \left(6.58545 \times 10^{-10} \sqrt{M^4} - 0.054323 M^2 \right)}{M^2} \right) = \frac{3.55271 \times 10^{-15}}{M}$$

Indefinite integral:

$$\int \frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} dM =$$

$$\frac{1.48774 \times 10^{-7} \sqrt{M^4}}{M} - 12.2723 M + \text{constant}$$

Global Maximum:

$$\max \left\{ \frac{225.913 \left(6.58545 \times 10^{-10} \sqrt{M^4} - 0.054323 M^2 \right)}{M^2} \right\} =$$

$$-\frac{140\,119\,826\,723\,990\,341\,497\,649}{11\,417\,594\,849\,251\,000\,000\,000} \text{ at } M = -1$$

Global minimum:

$$\min \left\{ \frac{225.913 \left(6.58545 \times 10^{-10} \sqrt{M^4} - 0.054323 M^2 \right)}{M^2} \right\} =$$

$$-\frac{140\,119\,826\,723\,990\,341\,497\,649}{11\,417\,594\,849\,251\,000\,000\,000} \text{ at } M = -1$$

Limit:

$$\lim_{M \rightarrow \pm\infty} \frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} = -12.2723$$

Definite integral after subtraction of divergent parts:

$$\int_0^\infty \left(\frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} - -12.2723 \right) dM = 0$$

From b which is equal to

$$\frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2}$$

From:

$$V = \frac{1}{3} (0.0814845 b + 1)^2 M^2$$

Get:

$$\frac{1}{3} (0.0814845 ((225,913 (-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4}))/M^2 + 1)^2 M^2$$

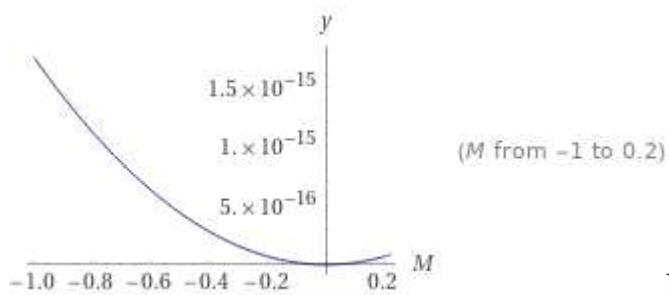
Interpretation of the input:

$$\frac{1}{3} \left(0.0814845 \times \frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} + 1 \right)^2 M^2$$

Result:

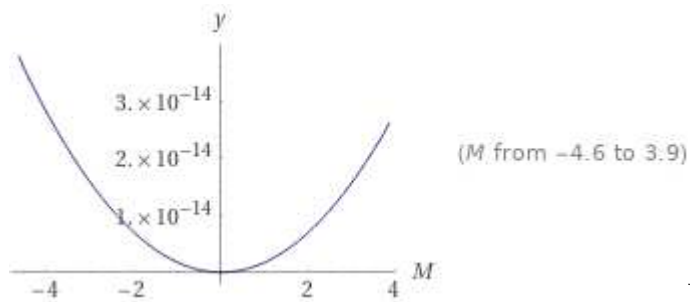
0

Graphs: (possible mathematical connection with an open string)



M = -0.5; M = 0.2

(possible mathematical connection with an open string)



M = 2 ; M = 3

Root:

M = 0

Property as a function:

Parity

even

Series expansion at $M = 0$:

$$O(M^{62194})$$

(Taylor series)

Series expansion at $M = \infty$:

$$1.75541 \times 10^{-15} M^2 + O\left(\left(\frac{1}{M}\right)^{62194}\right)$$

(Taylor series)

Definite integral after subtraction of divergent parts:

$$\int_0^\infty \left(\frac{1}{3} M^2 \left(1 + \frac{18.4084 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} \right)^2 - 1.75541 \times 10^{-15} M^2 \right) dM = 0$$

For $M = -0.5$, we get:

$$\frac{1}{3} \left(0.0814845 \times \frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} + 1 \right)^2 M^2$$

$$\frac{1}{3} (0,0814845 ((225,913 (-0,054323 (-0,5)^2 + 6,58545 \times 10^{-10} \sqrt{(-0,5)^4}))/(-0,5)^2) + 1)^2 * (-0,5^2)$$

Interpretation of the input:

$$\frac{1}{3} \left(\frac{0.0814845 \times \frac{225.913 \left(-0.054323 (-0.5)^2 + 6.58545 \times 10^{-10} \sqrt{(-0.5)^4} \right)}{(-0.5)^2} + 1}{(-0.5^2)} \right)^2$$

Result:

$$-4.38851344947464545348970783378088020833333333333333333\ldots \times 10^{-16}$$

$-4.38851344947 \times 10^{-16}$

For $M = 0.2$:

$$\frac{1}{3} \left(0.0814845 \times \frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} + 1 \right)^2 M^2$$

$$\frac{1}{3} (0,0814845 ((225,913 (-0,054323 \cdot 0,2^2 + 6,58545 \times 10^{-10} \sqrt{0,2^4}))) / 0,2^2 + 1)^2 \cdot 0,2^2$$

Interpretation of the input:

$$\frac{1}{3} \left(0.0814845 \times \frac{225.913 \left(-0.054323 \times 0.2^2 + 6.58545 \times 10^{-10} \sqrt{0.2^4} \right)}{0.2^2} + 1 \right)^2 \times 0.2^2$$

Result:

7.021621519159432725583532534049408333333333333333333333333... $\times 10^{-17}$

7.021621519159*10⁻¹⁷

For M = 3:

$$\frac{1}{3} \left(0.0814845 \times \frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} + 1 \right)^2 M^2$$

1/3 (0,0814845 ((225,913 (-0,054323 3² + 6,58545×10⁻¹⁰ sqrt(3⁴)))/3²) + 1)² 3²

Interpretation of the input:

$$\frac{1}{3} \left(0.0814845 \times \frac{225.913 \left(-0.054323 \times 3^2 + 6.58545 \times 10^{-10} \sqrt{3^4} \right)}{3^2} + 1 \right)^2 \times 3^2$$

Result:

1.579864841810872363256294820161116875 $\times 10^{-14}$

1.57986484181*10⁻¹⁴

For $M = 2$:

$$\frac{1}{3} \left(0.0814845 \times \frac{225.913 \left(-0.054323 M^2 + 6.58545 \times 10^{-10} \sqrt{M^4} \right)}{M^2} + 1 \right)^2 M^2$$

$$\frac{1}{3} (0,0814845 ((225,913 (-0,054323 \cdot 2^2 + 6,58545 \times 10^{-10} \sqrt{2^4}))) / 2^2 + 1)^2 \cdot 2^2$$

Interpretation of the input:

$$\frac{1}{3} \left(0.0814845 \times \frac{225.913 \left(-0.054323 \times 2^2 + 6.58545 \times 10^{-10} \sqrt{2^4} \right)}{2^2} + 1 \right)^2 \times 2^2$$

Result:

$$7.02162151915943272558353253404940833333333333333333333333333333 \times 10^{-15}$$

7.021621519*10-15

From the four results

7.021621519*10⁻¹⁵ ; 1.57986484181*10⁻¹⁴ ; 7.021621519159*10⁻¹⁷ ;
-4.38851344947*10⁻¹⁶

We get, after some calculations:

$$\text{sqrt}[1/(2\pi)(7.021621519 \times 10^{-15} + 1.57986484181 \times 10^{-14} + 7.021621519 \times 10^{-17} - 4.38851344947 \times 10^{-16})]$$

Interpretation of the input:

$$\sqrt{\left(\frac{1}{2\pi} (7.021621519 \times 10^{-15} + 1.57986484181 \times 10^{-14} + 7.021621519 \times 10^{-17} - 4.38851344947 \times 10^{-16})\right)}$$

Result:

$$5.9776991059... \times 10^{-8}$$

$5.9776991059 \times 10^{-8}$ is very close to the Planck electric flow 5.975498×10^{-8} which is equal to the following formula:

$$\phi_P^E = \mathbf{E}_P l_P^2 = \phi_P l_P = \sqrt{\frac{\hbar c}{\epsilon_0}}$$

We note that:

$$1/55 * (((1/[(7.021621519 \times 10^{-15} + 1.57986484181 \times 10^{-14} + 7.021621519 \times 10^{-17} - 4.38851344947 \times 10^{-16})]))^{1/7} - ((\log^{5/8}(2))/(2 \cdot 2^{1/8} \cdot 3^{1/4} \cdot e \log^{3/2}(3))))))$$

Interpretation of the input:

$$\frac{1}{55} \left(\left(\frac{1}{(7.021621519 \times 10^{-15} + 1.57986484181 \times 10^{-14} + 7.021621519 \times 10^{-17} - 4.38851344947 \times 10^{-16})} \right)^{1/7} - \frac{\log^{5/8}(2)}{2 \sqrt[8]{2} \sqrt[4]{3} e \log^{3/2}(3)} \right)$$

$\log(x)$ is the natural logarithm

Result:

1.6181818182...

1.6181818182... result that is an excellent approximation to the value of the golden ratio 1.618033988749...

From Planck units:

Planck length

$$l_P = \sqrt{\frac{4\pi\hbar G}{c^3}}$$

$5.729475 \cdot 10^{-35}$ Lorentz-Heaviside Value

Planck electric field strength

$$\mathbf{E}_P = \frac{F_P}{q_P} = \sqrt{\frac{c^7}{16\pi^2 \epsilon_0 \hbar G^2}}$$

$1,820306 \cdot 10^{61}$ V*m Valore Lorentz-Heaviside

Planck electric flow

$$\phi_P^E = \mathbf{E}_P l_P^2 = \phi_P l_P = \sqrt{\frac{\hbar c}{\epsilon_0}}$$

$5.975498 \cdot 10^{-8}$ V*m Lorentz-Heaviside value

Planck electric potential

$$\phi_P = V_P = \frac{E_P}{q_P} = \sqrt{\frac{c^4}{4\pi\epsilon_0 G}}$$

$1.042940 \cdot 10^{27}$ V Lorentz-Heaviside value

Relationship between Planck electric flow and Planck electric potential

$$\mathbf{EP * I_P} = (1.820306 * 10^{61}) * 5.729475 * 10^{-35}$$

Interpretation of the input:

$$\frac{(1.820306 \times 10^{61}) \times 5.729475}{10^{35}}$$

Result:

1042939771935000000000000000

Scientific notation:

$$1.042939771935 \times 10^{27}$$

$$1.042939771935 * 10^{27} \approx 1.042940 * 10^{27}$$

Or:

$$\mathbf{EP * IP2 / I_P} = (5.975498 * 10^{-8}) * 1 / (5.729475 * 10^{-35})$$

Interpretation of the input:

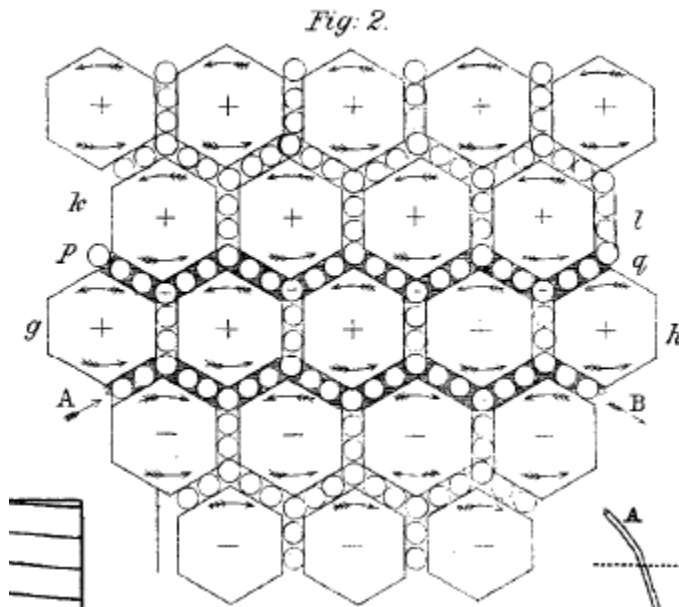
$$5.975498 \times 10^{-8} \times \frac{1}{\frac{5.729475}{10^{35}}}$$

Result:

$$1.04293988541707573556041347592929544155441816222254220500133... \times 10^{27}$$

$$1.042939885417 * 10^{27} \approx 1.042940 * 10^{27}$$

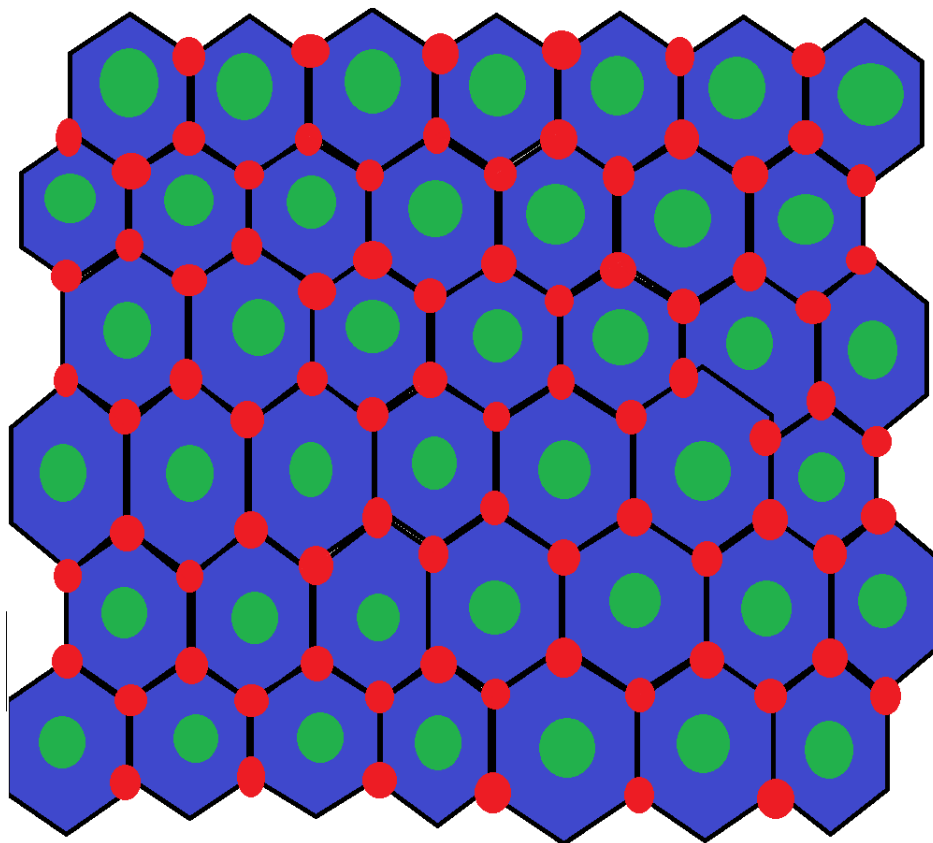
Figure 1



It is therefore possible to consider the vortices of the "quantum vacuum" schematized as cubes or octahedra (the + sign within a given vortex indicates its counterclockwise rotation, while the - sign indicates its clockwise rotation). Between vortex and vortex there is a layer of "bubbles"-universes (or universe-spheres), which flows, as in the simplified two-dimensional drawing, from A to B

Figure 2

Immagine dello Spazio-Tempo a scala quantistica: le circonferenze in rosso rappresentano i punti corrispondenti alle dimensioni compatte e gli esagoni in blu, rappresentano le "fluttuazioni" (universi potenziali – cerchi verdi) del vuoto quantistico (2D)



Proposal

Image of space-time on a quantum scale: the circles in red represent the points corresponding to the compacted dimensions and the hexagons in blue, represent the "fluctuations" (potential universes - green circles) of the quantum vacuum (2D). In reality, we will have n -dimensional hyperspheres in which the compacted dimensions "roll up" and octahedra representing the "fluctuations", containing spheres (bubbles of potential universes), of the quantum vacuum

Acknowledgments

We thank Professor **Augusto Sagnotti** , theoretical physicist of the Scuola Normale Superiore of Pisa, for his very useful explanations and his availability.

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An update on the breaking of brane supersymmetry - *Jihad Mourad and Augusto Sagnotti* - arXiv:1711.11494v1 [hep-th] 30 Nov 2017

Properties of nilpotent supergravity - *E. Dudas, S. Ferrara, A. Kehagias and A. Sagnotti* - arXiv:1507.07842v2 [hep-th] 14 Sep 2015

See also:

The Geometry of the MRB Constant by Marvin Ray Burns

https://www.academia.edu/22271085/The_Geometry_of_the_MRB_constant

(See also on page 29 the applications of CMRB in various fields of Theoretical Physics (String Theory) and Cosmology)

http://xoom.virgilio.it/source_filemanager/na/ar/nardelli/michele%20and%20antonio%20papers/Try%20to%20beat%20these%20MRB%20constant%20records!%20-%20Online%20Technical%20Discussion%20Groups%E2%80%94Wolfram%20Community%20b.pdf